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PENNY CYCLOPAEDIA

of

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FOR THE

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VOLUME III.

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A NEW DICTIONARY OF THE ENGLISH LANGUAGE,

BY CHARLES RICHARDSON.

"It was in the year 1747, that Dr. Johnson announced his intention of undertaking a Dictionary of the English Language. In a letter addressed to the Earl of Chesterfield, he unfolded the plan upon which he designed to proceed; and he very justly assumed, that a work upon his plan was then wanting to our literature. The Dictionary itself was published in the year 1755, strange as it may seem, unaccompanied by his plan. But the offence which Johnson had taken at the neglect of 'the wit among Lords, but the Lord among wits,' will fully account for the omission. The execution would not, however, have sustained a comparison with the design, had the means of comparison been given.

"The leading principles of it were, that, in his explanations, he should exhibit—first, the natural and primitive signification of words, then give the consequent, and then the metaphorical, meaning; and the quotations were to be arranged according to the ages of the authors. A mere inspection into any page of his book will manifest that he had proceeded in the composition of it wholly regardless, and in utter dereliction, of his own avowed principles of lexicography.

"If such a Dictionary as Dr. Johnson projected was wanting then, it may with justice be affirmed that it is so now, and for this plain and conclusive reason, that neither did he himself at that time attempt, nor has any other person since attempted, to construct a work upon the plan prescribed. That deficiency, therefore, which Dr. Johnson had felt, and which he had declared it to be his purpose to relieve, to this moment remains, not merely in its full extent unattained, but with all the aggravations that time and change may fairly be supposed to have effected. During the whole period of eighty years, which have passed since the first publication of the Dictionary, no effort has been made upon the professed, but unpractised, principles of its Author to compile a new Work, nor is any one known to have engaged even in the less glorious, but still arduous enterprise, of systematically reforming and remoulding the old. Supplements and additions to the increase of its bulk, have been collected and published; serviceable, it is true, even perhaps for all intended purposes, but leaving the demand for a new book as imperative as before. 'Omnes panarium formas hic labor unus habet,' says Scaliger; and the home-feel truth of this dreadful note of warning has hitherto, perhaps, deterred all aspirants to the honours of lexicography, who may have ventured (if any such there have been) to make a commencement of their labours, from toiling on with patient perseverance to their final close.

"It is not necessary to raise a question whether the powerful and comprehensive mind of Johnson could, in his day, in the then state of philological learning, have wielded to effectual purpose the force of his own rules. Certain it is that, with only Junius and Skinner for his guides in Etymology, (the latter of whom, on various occasions, has most unaccountably neglected,) and with no remoter search into our language than the age of Elizabeth, it was utterly impossible that he should have laboured to apply those rules with success.

"The Author of the New Dictionary, when he embarked in this undertaking, was well assured that the undoubted chief of philosophical grammarians had not spoken either idly or untruly, when he asserted that a new Dictionary ought to be written, and of a very different kind indeed from any thing yet attempted anywhere; he felt satisfied that this was not the solitary dictum of one man; that the opinion had penetrated into our schools and colleges, and that it prevailed very generally among the various intelligent and inquiring classes of his countrymen. He further felt that the volumes of Horne Tooke had developed a new theory of language; that the principles of that theory had, in the main, been well received; that they had settled deeply in the minds of literary men, both abroad and at home; and that upon those principles he must compose his Work.

"The great first principle upon which he has proceeded in that department of the Dictionary which includes the explanation of words, is that so clearly evolved and so incontrovertibly demonstrated in the Diversions of Purley, namely—that a word has one meaning, and one only; and that all usages must spring and be derived from this single meaning. To discover this meaning etymological research was indispensable; and the results of such research have been stated, with consciousness it is true, yet with a fullness that will enable the more learned reader to form a judgment for himself, and the path of deeper investigation is disclosed to the pursuit of the curious inquirer. The explanations are placed distinctly by themselves, unmixed with the Etymology, to suit the purposes of hasty consultation.

"As needful aids to trace the various usages of words from the intrinsic meaning, he has enjoyed and availed himself, not only of the large store of materials collected by Johnson and his Editors, the various sup-
The quotations selected from the latter portion of this almost unmanageable dissertation, (to use a Baconian term,) have been arranged under periods of chronological succession. From our earliest writers, Wiclif, Chaucer, and Gower, to those who, within the memories of ourselves, had ceased to shed their living lustre upon the annals of their country, contributions have been levied to add grace and strength to the columns of the Dictionary. From this chronological arrangement, the reader will be admitted to an insight into some very interesting and instructive portions of a history of his native tongue.

One disadvantage will apparently be the consequence of this precession; in time, that a metaphorical will sometimes stand prior to a literal example; but the manner of explanation will render this a matter of slender importance, when compared with the advantages that will be secured by a uniform adherence to chronology.

The necessary brevity of a Prospectus will not permit the Author to touch further upon these topics, or even to name some minor points of omission or observance, for which he thinks the New Dictionary of the English Language deserves to be distinguished.

But the Author is conscious that he should be chargeable with great want of courtesy if he passed unnoticed the American Dictionary of Dr. Webster. His success, however, must be short. Dr. Webster disarmed and stripped himself for the field, and advanced unaided and unshielded to the combat. He summoned the assistance of Skinner and Vossius, and the learned elders of lexicography; and of Tooke, he quaintly says, 'I have made no use of his writings.' There is a display of oriental reading in his Preliminary Essays, which, as introductory to a Dictionary of the English Language, seems as appropriate and useful as a reference to the code of Gentoo laws to decide a question of English inheritance.

The individual examples—in each period—are placed in the order of the words that stand at the head of each article.
THE PENNY CYCLOPAEDIA
OF
THE SOCIETY FOR THE DIFFUSION OF
USEFUL KNOWLEDGE.

ATHANARIUS, a chief or judge of the Goths who had settled themselves on the borders of the Roman empire, north of the Danube, about the middle of the fourth century. Having aidedProcopius in his rebellion, the Goths were attacked and defeated by the emperor Valens in 369. They then sued for peace, and an interview took place on this occasion between Valens and Athanaric, in a boat in the middle of the Danube. Some years after, the Huns having come down from the banks of the Volga, threatening the territory of the Goths, Athanaric opposed the barbarians at the passage of the river Dniesther, but he was surprised, and obliged to retire with a part of his followers into the fastnesses of the Carpathian mountains. The rest of the Goths, under Fritigern, threw themselves on the empire for protection, and were allowed to cross the Danube and settle in Thrace. They afterwards quarrelled with the emperor Valens, whom they defeated and killed in the battle of Adrianople, in August A.D. 378. After the death of Fritigern, and the elevation of Theodosius to the empire, Athanaric, who had remained in his fastnesses, was elected king of the Goths. He then concluded a peace with Theodosius, and repaired to Constantinople, where he was received with great pomp, in January A.D. 381; but having suspected himself at the emperor's table, he soon after died, and was buried with great magnificence by order of Theodosius. (Gibbon, c. xxv.)

ATHANAS (Leach), a genus of the long-tailed crus-taceans, bearing much resemblance to Lysmata (Risso), from which it differs in having the first pair of feet of larger size than the rest; while the second pair of Lysmata are the largest. It is small in size, and has been taken on the south coast of England and on the shores of France.

ATHANASIUS CREED, or Symbolum Athanasianum, which is also called from the words of its beginning the Symbolum Quinqueparts, is not extant in the works of Athanasius (which contain, vol. i. part i. p. 98, 99, another creed, stating the same doctrine, but differently expressed), and is not quoted by contemporary writers: it seems to refer to the later Nestorian and Bythagorean controversies—a Latinized character, or it sounds in Greek like a translation from a Latin original, and appears to contain phrases taken from the writings of Augustine, the bishop of Hippo. Hence we conclude that it was composed about the middle of the fifth century. Some have supposed that Vincentius Lermosius; others, that Venantius Fortunatus; others again, that Hilarian Archiepiscopus wrote what is now called the Athanasian creed. According to Paschasius Querin, Virgilius of Tapaeus, who has been considered to have interpolated the passage, I. John v. 7, was also the author of the Athanasian creed.

From the seventh century we find that the Athanasian creed has been considered in the western churches to be the most genuine document of the ecclesiastical trinity. It is remarkable that the Athanasian creed was not introduced by the authority of ecclesiastical councils nor by any external compulsion, but was generally received by the free consent of the churches that it contained a correct exposition of Christian doctrine, and that it was necessary to give some ecclesiastical definitions of the statements of the New Testament. This important document may illustrate the difference between the solution of an historical question concerning authenticity, and one involving the internal truth of doctrinal contents. (See Cave, Historia Litter., vol. i. p. 189; Oudin, des Scriptores Eccles., vol. i. p. 312; Fabricius, Biblioth. Gr., vol. v. p. 297; Montfaucon, Pref. ad Op. Athanarit; and Schreibler, Kirchenrecht, vol. xii. pp. 93-252.)

Sherlock has also written on the Athanasian creed. Dr. Waterland supposed it, without much foundation, to have been made by Hilary, bishop of Arles; and Archbishop Tilson said, 'The church were well rid of it.' (See Clarke's Succession of Sacred Literature, London, 1830, p. 274.)

A defence of the Athanasian creed on physiological principles, by Thomas William Chevalier, Esq., has been printed in the Morning-Watch, and published separately: London, 1830. In this dissertation a surgeon refutes the attack of some clergymen.

Before the close of the sixth century, the Athanasian Creed had become so well known, that comments were written upon it; it was not, however, then styled the Athanasian Creed, but simply the Catholic Faith. Before the expiration of another century, it had obtained the appellation which it has since preserved. It is supposed to have received the epithet 'Athenasian,' on account of its reference to the subjects of the controversy between the orthodox and the Arians. But Athanasius himself confined his exhortations to the establishment of the doctrine of the incarnation, and seems not to have insisted much upon the doctrines relative to the Spirit.

This creed was used in France about the year 850; was received in Spain a hundred years later, and in Germany about the same time. It was both said and sung in England in the tenth century; was commonly used in Italy at the expiration of that century, and at Rome a little later.

Many learned men, especially Cardinal Bona, Petavius, Bellarmin, and Rivet, are of opinion that the creed which bears the name of Athanasius was really the production of that bishop. Baronius maintains this opinion, and suggests that it was composed by Athanasius when at Rome, and offered to Julius as a confession of his faith.

The controversy on the Athanasian creed has produced in England a great number of works: the most learned and impartial work on this subject is, 'A Critical History of the Athanasian Creed,' by Daniel Waterland, D.D.; the second edition, corrected and improved: Cambridge, 1728.

ATHANASIUS, ST., surnamed Apostolicus, was one of the most noted divines and theological controversialists of the fourth century. The ecclesiastical history of that period is chiefly occupied with the narration of events in which he either bore a part or was closely concerned.

Athanarius was born at or near Alexandria, about the close of the third century. The Benedictines of St. Maur give A.D. 264 as the year of his birth. Elmirin relates that the
mother of Athanasius belonged to a noble Alexandrine family, and that she was an illiterate. She gave to Athanasius a good education. On her endeavouring to persuade her son to marry, he would not listen to her at first. The mother then assailed his chastity by introducing harlots into his apartment; but Athanasius flogged them and drove them away. The mother now invited a Sabean magician to dine with him; but the son told her that Athanasius was already a Galilæan beyond the power of magic, and that he would become a great man. After bearing this, the mother introduced Athanasius to the Patriarch Alexander, and was baptized with her son. The mother died, and Athanasius, like the rest of his family, was educated in the Semitic schools. In his continuation of the ecclesiastical history of Egypt, relates, that Athanasius, while yet a boy, baptized other boys in play, and that this first introduced him to the notice of Alexander, who became bishop of Alexandria, a.d. 313, and was the nineteenth patriarch of that see. This statement is supported by the Benedictine editors of the works of Athanasius, by Stillemont, J. A. Schmidt, S. Basnage, and others, but is rejected by many on the ground of there being a tradition in assigning the childhood of Athanasius to the period of Alexander's possession of the bishopric.

The writings of Athanasius prove that he received a learned education, and that he was acquainted with both the Sacred and the profane literature of his age; and Gregory of Nazianzus praises the contempt of Athanasius for heathen learning. During some part of his earlier life, Athanasius, attracted by the great reputation of St. Anthony, led for a time an ascetic life with that celebrated anchorite. This ascetic life, however, was not long pursued, Athanasius early conciliated, and by his abilities retained, the favour of that prelate, raised him rapidly from the lower ecclesiastical degrees to the office of deacon, and then to that of an archdeacon in his literary undertakings. In the Synod held at Alexandria, a.d. 321, against the Arians, Athanasius occupied the fourth place among the deacons of the Alexandrine church. In a.d. 325 he was archdeacon, and exerted considerable influence over his brethren in the church. The profession of the synod he represented his bishop against the Arian party. Here Athanasius laid the foundation of his fame by his powerful refutation of Ariusism; and notwithstanding his youth, he was from this time considered the first champion of the orthodox church. Alexander died in April, a.d. 326; and in the same year Athanasius was unanimously chosen bishop of Alexandria by the other orthodox bishops and by the inhabitants of the city. It is an established fact, that in those days the clergy and laity concurred in the choice of the bishop. If we accept this as true, we may reasonably anticipate that he might be elected, concealed himself during six months, and only reappeared when he expected that the vacant see would be already filled. According to the Act of the Fourth, he was consecrated bishop without any public synod by his own consent. Athanasius was no 'illegal secrecy.' It is probable that the numerous parties of the Meletians and Arians opposed the appointment of Athanasius; yet it is certain that at this period the orthodox party preponderated. A synodal report, which states the particulars of the bishops' proceedings in the choice of the new bishop of Alexandria, still exists, and has been appended to the works of Athanasius. Athanasius, as the twenty-third metropolitan of Alexandria and Patriarch of the eastern church, obtained an external sphere for the propagation of the faith, and for the pathological care of the sick. The church of Alexandria was ranked after the Roman bishop, and the highest ecclesiastical dignity in the East; but he was surrounded by bitter opponents, against whom he endeavoured to put in execution the decrees of Nicaea. About a.d. 326 (according to some reckoning: see Acts, vol. i. p. 99), after the conversion of the Ethiopians to Christianity, Athanasius sent Frumentius, who was instrumental in their conversion, as their first bishop. But the joy of his conversion was marred by the increase of power of the inhabitants of Alexandria by the Arian party. Among the most formidable opponents of Athanasius was Eusebius, bishop of Nicomedia, who having been previously deposed on account of his Arian sentiments, he was restored at the request of the Meletians, obtained consistory, and, in conjunction with the Meletians, obtained consistory. Athanasius declined to comply with the proposal of Eusebius to re-admit Arius into church communion, and resorted the threats of the emperor by referring to the Nicene decrees. From this time the Meletians and Eusebius sought the ruin of Athanasius. In a.d. 332 they accused him before the emperor of having, without the consent of the churches, taxes upon linen; of affording pecuniary aid to the rebels; of ordering, during a visitation of the Marœotic congregations, that the chalice of the Meletian bishop, Ischera, should be broken, and that his liturgical vessels should be burned; of having caused the Meletian bishop Arsenius to be murdered; and of having employed the hand of Arsenius, when severed from his body, for magical purposes. Athanasius refuted the first two accusations by witnesses, proved that Ischera was the correct guardian of the chalice of this episcopal visitation, and that his chalice was not an ecclesiastical chalice. His success in refuting the last charge was complete: Arsenius was still alive, and with his hands. But this acquisitiveness, and the imperial lecturn, which fully acknowledged his innocence and justified the proceedings, were insufficient to defend him against new attacks. The Eusebians induced the emperor, a.d. 334, to cite him before a synod at Cesarea; but Athanasius refused to appear before this tribunal, in which his opponents were at the same time accusers and judges. The emperor, much displeased by his disobedience, commanded him to appear before a synod at Tyre, a.d. 335, to which Athanasius went with forty-nine bishops. The former charges were renewed, perpetual exile was again proposed against him, and the charge of murder. Fresh crimes were now imputed to him: a woman with whom it was alleged that the bishop of Alexandria had committed fornication, was brought forward, but when confronted with Athanasius, she mistook for the bishop another who defied detection, and had herself declared a false accuser. Finding that charges from which he had already been acquitted were perpetually revived, and that new accusations were invented, he considered even his life was to be risked before the emperor, and his accusation about the broken chalice had been fully investigated, and during the absence of the Meletian bishops sent to Marcotis to examine into the charges relative to Ischera, he secretly retired, under the protection of the body of the emperor, to the island of Tyre, and there was joined by the synod of Tyre, notwithstanding the protestation of the Egyptian and Meletian clergy, decreed the deposition and excommunication of Athanasius, and his exile from Alexandria. They grounded their sentence on his disobedience to the commands of the emperor; and before the time of residence about the alleged desecration of ecclesiastical vessels. The emperor, desirous of doing justice to the bishop of Alexandria, cited the judges of Tyre to account in his own presence for the sentence which they had pronounced. The bishops pleaded that the sentence was pronounced when the emperor was not present, and that the emperor exiled him in order to protect him from the rage of his enemies. The bishopric of Alexandria remained vacant by the express command of the emperor. Athanasius was well received at Tyre by Constanza, and here he had many opportunities of strengthening his friends in the West, and frequent means of communicating with Egypt. Athanasius wrote at this time a letter to the bishop Serapion on the death of Arius. The Alexandrians deeply mourned the absence of their much-revered bishop; for they had known his piety, and had witnessed his restoration—an appeal which was seconded by the representations of the celebrated and esteemed Eutychian. The banished bishop was recalled, and restored to his see, a.d. 336, after having travelled through Germany, Pannonia, Moesia, and Syria, to Constantinople; and thence through Bithynia, Cappadocia, Syria, and Palestine, to Egypt. Constantine had not iti. the see, a.d. 336, after having travelled through Germany, Pannonia, Moesia, and Syria, to Constantinople; and thence through Bithynia, Cappadocia, Syria, and Palestine, to Egypt. Constantine had not iti. the see, a.d. 336, after having travelled through Germany, Pannonia, Moesia, and Syria, to Constantinople; and thence through Bithynia, Cappadocia, Syria, and Palestine, to Egypt.
against the return of Athanasius, alleging that the de
gree of the synod of Tyre remained unreprieved. They re
quired the former accusations, and added the charge of hav
ing sold, for his own profit, the gospels and other books
pertaining to the church and the poor. They also imputed to his insti
gation the popular disturbances which took place on his re
turn. The Busebian party, intending to embarrass Athana
sus still further, brought back to Alexandria the Arian
bishop, the pretended son of a corn belonging to
the new Roman emperor of the East, Constantius, sided with
them, threatened more violent measures. Nearly a hundred
of the bishops in the patriarchate of Alexandria appeared
at a synod summoned by Athanasius, and refused in a synod as
congregated by the Arians. They also appealed to the
wholesale of Christendom to rise in his defence. Athanasius
despatched messengers to Julius, bishop of Rome; and the Eusebians
at the same time sent delegates to Julija, re
questing him to recognize Pius. Thus were the Roman and
other western churches involved in the Athanasian
content
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Athanasius went again to Rome in the year 340, accom
panied by a few months; in order to hold the synod convened
by Pope Julius. Antony, the esteemed friend and reverend
structor of the early manhood of Athanasius, having collected,
about the year 345, a society of religious recluse from among the
barbarian of Africa, associated them into a community seek
ing to avoid the labours of the official clergy, and to observe
religious rules. Baronius maintains, and his opinion is the most generally received, that it was Athanasius, who, about
the year 340, transplanted the regular monastic institutions from Egypt into Italy, and erected the first monastery at
Ravenna, in the time of Constantius. He was appointed by
the see of Rome, and the bishops of the other Roman
potencies. Other opinions assign different localities to
the first European monastic community. It is however probable that, during this visit of Athanasius to Rome, he exer
cised there the spirit of the holy man of God, by approving the practice of monasticism, Athanasius did not
sanction or overlook its abuses. Amongst many instances of
his discreet interference and counsel, he thus writes to a
monk who had been appointed to a bishopric, but who sought to avoid the labours of the official clergy, and to observe
both abstain from wine and fast frequently. We have
known both fasting bishops and fasting monks. We have
known both bishops who abstained from wine, and monks
who indulged in it. Many among the bishops have not
entered into monasteries, while many churchmen, many monks have become fathers of children. Let every one, therefore,
fight how he will the good fight. (Ep. ad Dracont.)

Athanasius also seriously refuted the indiscriminate opinions of those who joined with the Eusebians, opposed to
the state of celibacy and monasticity its place in the ordi
nance of God. Many persons were greatly offended by
this, and seriously blamed Athanasius.

Julius had declared himself in favour of Athanasius, but, in consequence of the persistence of the Eusebian delegates, he appointed a synod to be held at Rome. But before the assem
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at Antioch, A.D. 341, in which it was declared that Athanasius
was for ever excluded from the bishopric of Alexandria.
They offered the vacant seat to Eusebius of Emesa, and
on his declining the offer, it was bestowed upon Gregory
of Cappadocia, who, assisted by the imperial troops, expeled Athanasius (who had returned from Rome, and had
been designated by the foregoing synod as bishop of Thessalon
about Easter, A.D. 341, and committed many acts of violence against
the Homoeans, Photius, the Roman governor of Alexandria, combining his efforts with those of Gregory, re
peated the life of Athanasius, who fled for refuge to Rome. In the
same year Julius held a synod of fifty bishops, which rejected all the accusations against Athanasius, and re
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Alexandria, but in vain; and even after the death of Eusebius, which took place in 340, Athanasius continued to
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The union of the Arians at Rome applied to Constantus, the emperor of the west, for protection. Constans several times granted him a private audience. The case of Athanasius was espoused by most of the
occasional prelates, and the endeavours of the Eusebians to
obtain a compromising peace were defeated. Athanasius
would agree to no peace which was not based upon the ac
knowledgment of the Nicene Homoeans. By his princi
palliance in this demand he obtained the reputation of a
martyr for orthodoxy. Athanasius dreaded compromise
more than schisms.

On the demand of Constans, a synod was convened at
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lic debate and in private conference with the emperor, the eternal obligation of religion and justice. They declared that neither the hope of his favour nor the fear of his displeasure should prevail on them to join in the condemnation of the bishops of Alexandria and their supporters. They affirmed, with apparent reason, that the illegal and obsolete decrees of the council of Tyre had long since been tacitly abolished by the imperial edict, the honourable re-establishment of the archbishop of Alexandria, and the silence of the emperor himself. They declared that the emperor had been impeached that his innocence had been attested by the unanimous bishops of Egypt, and that his excommunication and deposition of Anathasius had been approved by the Synod of Tyre, and had been acknowledged in the councils of Rome and Sardica by the imperial council. They declared that the emperor, Anathasius, was, after enjoying so many years his seat, his reputation, and his temporal and spiritual power, was again called upon to confute the most groundless and extravagant accusations. Their language was severe; their conduct was honourable; but in this long and obstinate contest, which fixed the eyes of the whole empire on a single bishop, the ecclesiastical factions were prepared to sacrifice truth and justice to the more interesting object of defending or removing the injured champion of the Nicene faith. The Arians and the subversive emperors, it is evident, were disposed to dispute in ambiguous language their real sentiments and designs; but the orthodox bishops, armed with the favour of the people, and the decrees of a general council, insisted on every point. They declared that they did not think the emperor ought to urge himself to the suspicion of heresy, before they seemed to arraign the conduct of Anathasius.

Thus far Gibbon, chap. xliii.

The councils of Arles and Milan were not dissolved till the ambassadors of Alexandria had been solemnly condemned and deposed by the judgment of the western as well as of the eastern church. A formality of consent was transmitted by the name of a standing ambassador to the absent bishops; and all those who refused to submit their protest to the public and inspired wishes of the councils of Arles and Milan, were immediately banished by the emperor, who affected to execute the decrees of the council in his name. Among those prelates, Anathasius led the host. A body of confessors and exiles, Liberus of Rome, Osus of Capua, Paulus of Treves, Doimius of Milan, Eusebius of Vercelli, Laurenco of Cagliari, and Hilary of Potieris, deserve to be particularly distinguished. The eminent status of Liberius, who governed the capital of the empire, the personal merit and long experience of the venerable Osus, who was revered as the favourite of the great Constantine, and the father of the Nicene faith, placed them preeminent at the head of the church; and their ecclesiastical authority, which ought to have been respected by the Episcopal council. But the repeated attempts of the emperor to seduce or intimidate the bishops of Rome and Venice were for some time ineffectual. The Arian body was at last compelled, in the year 366, within three years before under the pretense of Maximian. The Roman, in the presence of the emperor, assailed the interference of Anathasius and the western bishops. The reception of Liberius and Osus was met, as at the barrels of exile and condemnation. The Kalendar purchased his return by a long fasting and penance, and afterwards exerted his influence in favor of Anathasius. Persuasion and violence were both tried; but the emperor was perhaps impelled by the weight of an assembly of bishops, who desired the assistance of Anathasius to pacify the divided church. He was sent to the emperor himself — a person of considerable influence and respect, and who was expected to exert the weight of his high authority in favor of Anathasius. Even the body of bishops who had been adjourned to Rome, and to whom the arrival of Anathasius would be a great encouragement, were in council and order to be written to the emperor and the assembly of the African bishops. The episcopal council was at length overruled and entered by the imperial troops. During four months, under the guise of zeal for religion, ravages the most horrid were carried on within the walls of Alexandria. Anathasius with difficulty saved his life by means of a rapid and secret flight. George, who was, according to Anathasius, a man of very limited means, but who, according to Ammianus Marcellinus, was sprung from a family of the Epiptimarchus in Cilicia — a man regardless alike of religion and humanity, was placed in the episcopal chair, and caused the horror and disgrace of his deposition which he suffered in Alexandria to be repeated in ninety of the episcopal cities of Egypt.

During six years Anathasius evaded the pursuits of the imperial emmissaries. He lived concealed chiefly among the monks of the desert, where he chose not to betray his revered associate. Sometimes he approached the towns in order to learn the proceedings of his enemies. While thus proscribed and pursued, he wrote and circulated his letters against the Arians and the bishops of Egypt and Libya, and others of his controversy treatises. Gibbon has eloquently described the romantic adventures of Anathasius during this period. Anathasius was at last recalled from his seclusion by the permission given by the emperor Julian to the exiled bishops to return to their sees. The first care of Anathasius was the restoration of peace and orthodoxy to the church. He convened, A.D. 362, a synod, which offered church communion to all those bishops who, during the reign of Constantine, had been guilty of particular errors in orthodoxy: he only required that they should subscribe, and henceforth strictly adhere, to the words of the Nicene creed, receiving it as an unalterable rule of faith. By his constant and uniform labours, unwarped by prosperity and unimpaired by adversity, Anathasius obtained the appellation of the Father of Orthodoxy.

Many bishops gladly embraced this opportunity of forsaking the Arians and reuniting themselves with the orthodox faith. Thus Anathasius effectually restored peace to the church and the unity of orthodoxy: he only required that they should subscribe, and henceforth strictly adhere, to the words of the Nicene creed, receiving it as an unalterable rule of faith. By his constant and uniform labours, unwarped by prosperity and unimpaired by adversity, Anathasius obtained the appellation of the 'Father of Orthodoxy.'

The power of the Arians was now so much impaired, that no power foresaw Anathasius being no longer a menace to them. But he suffered from the hatred of Julian, to whom the primacy of Egypt had become peculiarly ominous.

Repenting of the indulgence which had been extended to this vigorous and uncompromising supporter of the Christian faith, Julian condemned, in the proceedings of Anathasius, the submission of Egypt, and assailing that, in granting liberty to return, he had been far from intending the resumption of ecclesiastical functions. To rebuke this imputed presumption, Julian exiled Anathasius. The unpopularity of Anathasius, and his union with Constantius, was improved by the complaints and appeal of the Alexandrians. But Julian was resolved: the prefect of Egypt, who delayed the sentence, was reproved, and might have found even the restoration of Anathasius beyond his influence to his own safety, had not the retreat and impenetrable concealment of the bishop prevented his apprehension.

The emperor Julian, the successor of Julian, favoured the orthodox views. He revoked the decree of Julian, and wrote a respectful letter to Anathasius, requesting instruction in the true faith. Anathasius assembled, A.D. 363, a synod at Alexandria, which replied to the emperor's letter; and himself repaired to Antioch at the invitation of Julian.

About this time Anathasius composed several works: among other things, a life of Ammonius and his doctrine, which has possibly become interpolated; a work on the Incarnation of the Word of God, which sometimes bears also the title 'On the Trinity and Incarnation,' and a work on the Trinity and Holy Spirit,' which is extant only in a Latin translation, and is perhaps but an imitation of the manner of Anathasius.

Another change of affairs took place, on the death of Julian, under the reign of Amus, who was a zealous Arian. Banished by the emperor, he returned to Egypt, and took refuge in his father's tomb. But a rebellion being excited by this compulsory removal from his see, the emperor granted to Anathasius a safe residence in Alexandria, and allowed him to resume his episcopal rank and functions. Anathasius was not permitted to return to his own see, and to enjoy the peace which he had been promised by the emperor.

He wrote circular letters to the bishops and held a synod at Alexandria, A.D. 369. In the name of this synod, he addressed a memorial letter to the African bishops, which is extant under the title 'Epistles ad Afros.' The epistle entitled
ATHANASIUS, the bishop of Alexandria, is by some ascribed to this date; but Montfaucon doubts its authenticity. During the short remainder of his life, Athanasius is perpetually engaged in the conduct of his bishopric. The year 372 and the month of May, a.d. 373, are both assigned as the period of his death. Paprocki, who is of the latter opinion, relates, in the Acta Sanctorum for the month of May, tom. iv., that the body of Athanasius was conveyed to Constantinople, and thence removed in the fifteenth century to Venice, and placed in the church of the nuns of the Holy Cross. He adds, that the head of the bishop is wanting at Venice, and is still the subject of dispute between two churches, one in Spoleto and the other in Civita. There is no certain as to its possession, and nothing that proves it is a genuine head of Athanasius.

The opinions entertained of Athanasius have been most contradictory. Most exalt his sanctity, and some blame his obstinacy. But every impartial man must admire, in greatness of his soul, the purity of his intentions, the power of his mind, the firmness of his purpose, and the unwearied activity, by which he finally triumphed over apparently insurmountable obstacles. The small stature and insignificant appearance of his body did not at first impress beholders with the idea of internal greatness; but he was made for profound thinking, powerful speaking, and energetic action. His style is unadorned but appropriate, impressed with genius and natural eloquence. He seems to have a knowledge of the Hebrew language, and his interpretations of the Old Testament are consequently defective.

The accounts given of Athanasius by the oriental writers are collected by Eusebius Baradni in his Historia Patrum, tom. ii. p. 531; comm. Oriens Christianae, opera et studio Michaelis le Quien, Parisii, 1740, tom. ii. p. 399—404. All the works of Athanasius were splendidly published in three voles, folio by the Benedictine Monk Bernard de Montfaucon.

Abbas Cosmas (spud Joannem Moschum, i. x. c. 40.) says, 'If you find a piece of the works of St. Athanasius, copy it on your garments, if you have no paper to write upon.'

Among the most interesting of the works of Athanasius are his two books against the heathen: the first of which contains a conflation of idolatry, and the doctrine of the true God; the second treats of the doctrine of the incarnation of the Word. These books against the heathen do not mention the existence of Arius; and some have therefore conjectured that they were composed during the youth of Athanasius.

The principal writings of Athanasius against the Arians are: two books against the Catechetes; two of the Council of Laodicea; Apologia contra Arianos, see Apologia Secunda; Apologia ad Iamb. Constantinianum; Apologia de Fugit; Historia Arianorum ad Monarchos; Orationes quatuor contra Arianos; For Letters to the Bishop Serspon in defence of the Divinity of the Holy Ghost; A Letter to the Arians of the Synod of Ariminum and Seleucia (in Isauria.)

The epistle to the bishop Epictetus, at Corinth, and that to the bishop Adelphius, opposed the exaggerated worship of the body of Christ; but their authenticity, as well as that of the two books De Incarnatione Domini Jesu Christi contra Apollinaris, has been questioned. Apollinaris was one of the friends of Athanasius; and Athanasius was not in the habit of insisting on complete orthodoxy, except on the immediate subject of the Arian controversy. Athanasius even defended, on the score of pastoral charity, the bishop, Aulius of Cesarea, who abstained from giving the appellation of God to the Holy Spirit (Epist. ad Iohannem et Antichuron; et Epist. ad Palladium, Opera, ed. Pata.)

A great number of letters, tracts, comments, and narratives, the production of subsequent ages, are ascribed to him, and printed with his works; for, as the Benedictine editor of the works of Athanasius says, 'letters addressed by his ministers, as well as their natural offspring into the families of patients. We subjoin a list of the titles, translated into English, of the works of Athanasius, in the order in which they stand in the original Greek, accompanied by a Latin translation of the titles, and a few words of explanation, if necessary.'

A. Oratio contra Arianos; the heathen: The Incarnation of the Word: A Declaration of Faith: A Tract on Matthew: A Circular Letter to Bishops: Apology against the Arians, On the Decrees of the Nicaean Synod; On the Sentences of Doniusius: Epistle to Dorscuini: Circular epistle to the Bishops of Egypt and Libya; Apology to the Emperor Constantius; Apology for his Flight; Epistle on the Conversion of the Donians to the Nicaean; Four Orations against the Arians; Four Epistles to Serapion; On the Synods of Ariminum and Seleucia; An Address to the Bishops of Antioch; An Epistle to Eutychian; The Life of St. Anthony; Two Epistles to Orsius and one to Anchimandritus; Against the Arians; An Epistle to the African Bishops; An Epistle to Apollos; An Epistle to Maximus; Two Books against Apollinaris; Epistles to John and Antiochus, to Palladius, to Anania, to Rufinus, to Lucifer, to other Monks: A Work on each other; Ancient Epistle to Maccellinus; An Exposition of the Psalms; Fragments of Commentaries on the Psalms, Job, the Canticles, Matthew, Luke, and the Hebrews; many fragments of Epistles and short discourses in the Homily, On False Prophets, and some few fragments of Sermons.

Of the following, the authenticity is more or less doubtful.

Two Tracts on the Incarnation; On the Testimony of Scripture; A Catholic Epistle; A Refutation of the Malestinian and Eusebian Heresies; A Book against the Sabellians; On the Unity of Christ; On the Sabbath and Circumcision; A Homily on the Seed; On Matthew xxii. 2; On the Cross and Passion; A Treatise on Virginity; A Synopsis of St. John's Apocalypse.

A number of spurious treatises pass under the name of Athanasius, and form an appendix to the Benedictine edition of his works.

ATHANASIUS, the Great must not be confounded with Athanasius Junior, or Celestes, surnamed Hermiasus, who was also bishop of Alexandria from about a.d. 490 to 497, and was esteemed a good biblical scholar, an active bishop, and a devout man. He is supposed to be the author of a book of spiritual works ascribed to Athanasius the Great, the Sacramentum Synopsis; Questions and Responses ad Antiochum; two tracts De Incarnatione Verbi Dei; Synagogae Doctrinarum ad Clericos et Laicos; de Virginitate sine Antiochum.

ATHANASIUS, the rhetorician, bishop of Constantineople, wrote a work entitled Aristotelis proprion de anima immortalitate mentem explicantia. Gr. Lat. 2 libris. Parisiis, 1641, 4to. And also Anticettarce sur de primatum S. Petri; Epistola de Unione Ecclesiarii ad Alexandriam et Hieronymum Furturum, I. 2. Ant. Compendium redux. Gr. et Lat. Parisiis, 1655, 4to.

ATHHEMIS. [See MATERIALISM.]

ATHELING, or ATHELING. The indications, in the Saxon period of our history, of these kings, are few and hazy. Their nobility of the times after the conquest are exceedingly few: certainly, the system which gives to particular families particular names of distinction and particular social privileges, which are to descend in the families as long as the families endure, is one of those which the Saxons had among them early, but that word was used to designate, not as in these times only a rank of nobility, to which certain privileges are attached, but a substantial office bringing with it important duties: the superintendent indeed, under the king, of one of the counties or shires, the sheriff, gera, in Latin vice-comes, being his inferior, his delegate or deputy. These earls, who were nominated by the sovereign, held their offices as it seems for life, and were usually selected from the most opulent families. Even the sovereignty among the successors of Egbert seems not to have descended uniformly according to our modern principles of hereditary succession. Yet there were persons in the Saxon times who are spoken of as Athelings. Athel, or Ethel-brethren, persons nobly born. The term is used in Luke (xix. 12), in the Anglo-Saxon version of the New Testament, where, in the modern translation, we have the words a certain nobleman. Athel, Athel, or Ethel, is fragmentary evidence of the same kind as that of the Anglo-Saxon monarchy, as Edmund Atheling. Edgar Atheling, and it is selected not in any other Saxon family: it thus constituted what may possibly be regarded as an hereditary title, or at least, a title which was common to the princes, as we should now say, 'of that house.'
When the word Atheling has been found following a name by which a Saxons was designated, it has been supposed by some persons to be of the nature of a surname: and, especially in the instances in which it is found united with Edgar, in him who was the last male in that illustrious family. Polydore Virgil, an Italian, who in the middle of the sixteenth century wrote a history of England in elegant Latin, falls into this error; for which he is rebuked by Selden. Upon the occurrence of this ancient and much-admired usage, which have been in use in the countries of modern Europe, he shows that Edgar Atheling is the same as Edgar the Atheling, or the noble, and that while some of our moderns have called Edwic, as Herbert, and the reverend and Mattheus Pater, so designate him, others, as Hoveden and Florence, call him Edoraci Clyto. Clyto is the Greek term answering to eminent, illustrious. It is a remarkable fact concerning the Saxons kings of England and their families, that they affected titles and denominations of Greek origin, as Clyto, Basileus (king), and Adelpho (sister); the last appears on the seal of the royal abbey of Wilton.

There is no sufficient information to show when the word Atheling first began to be used in the Saxon dynasty, but it has been supposed that it was used from the earliest times by those who could boast of being of the blood of Woden, who was regarded as the common ancestor of all the races of Saxon sovereignty. Some have represented the term as connected to the eldest son of a reigning monarch, or at least to one who was the chief person, in the sense of the word, and Atheling of the Saxons they have regarded as equivalent to the term Dauphin in the line of the French monarchy, and Prince of Wales in our own. But this restriction of it seems to be not by the usages in Saxon and other early writers in whom it occurs.

Nothing is known of any peculiar privileges belonging to the Athelings. But those who in modern times have had occasion to speak of the term and the circumstances under which it was used as Lindisfarne, the Athelings were styled by the historians of the Saxon period, speak of lands being usually given to the Atheling while still in his minority. And hereby it is that this word Atheling has descended to our time, and the designation of these people.

As we have numerous Kingston, so have we all Londons: and both King and Atheling, with slight variations, have descended in union with other local terminations. We have Kingsbury, Kingsley, and Kingswood; Conington, Conisdon, Coningsbrooke, and Cony-Weston; we have also Bere-Regis, as it is now called, but by the Saxons, Conbyere. So also have we all Ageddon, Alderham, and Aldington, are of the same etymology. In one instance we have Ageddon, a very short distance from the other, a castle called Coningsborough—the one the seat of a Saxon Rex or Regulus—the latter, no doubt, one of the portions of land which were settled on one of the Athelings. AHTHELING, Isle of. This appellation, though it is said to be derived from a tower built by Edward the Elder, in the parish of East Lind, and hundred of Anderfield, in the county of Somerset; founded on the S.E. by the river Tone (a tributary of the Parret), over which is a wooden bridge still called Athelney bridge. The whole island contains about 100 acres, and in 1791 formed a compact form of about equal portions of arable and pasture land. There is a farm-house at its southern extremity.

The spot was antiently surrounded by almost impassable marshes, and has acquired celebrity as the place in which the great Alfred found temporary shelter while the Danes overran Wessex. It is thus described by William of Malmesbury: "Athelney is not an island of the sea, but is a small island, in the form of a long rectangle, held together with two lakes, that it cannot be got to but in a boat. It has a very large wood of alders, which harbours stags, wild goats, and many beasts of that kind. The firm land, which is only two acres in breadth, contains a little monastary and dwellings. It is now a king's seat. In its present state it cannot be reached, though with difficulties it could be reached; but Edward the Elder, who was Athelney, without a shadow of right, seized upon his dominions; Anlaf, the son of Sigtryg, and another son, being compelled to abandon the island. Thus was Northumbria brought under the sovereignty of the kings of Wessex." The chronicles represent him as permitting Heel the then sovereign of Wales, to enjoy all that which was more glorious to make kings than to be king.

In respect of the northern powers, after some successful attacks upon Sigtryg, he consented to terms of peace, and even gave one of his sons in marriage to his daughter, but Athelstan, without a shadow of right, seized upon his dominions; Anlaf, the son of Sigtryg, and another son, being compelled to abandon the island. Thus was Northumbria brought under the sovereignty of the kings of Wessex. Nor any other of the neighbouring states which still maintained Political independence, saw with satisfaction the growing power of Athelstan; and Anlaf, the exiled son of Sigtryg, made every exertion to
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regain the sceptre which had been forcibly wrested from him. A large portion of the inhabitants of Northumbria were of the race called Danes, in the predominance to the Saxons. They yielded on that account the more reluctantly to their new master. There was a national sympathy and community of interest with the Danes and Northman generally: of which Anlaf took advantage, and prevailed on them to send a very powerful force to assist him in re-establishing the Northumbrian sovereignty. A great effort was at that time made against Athelstan by all the neighbouring states—the Welsh, the Scots, and the Irish, all combining to assist Anlaf.

Athelstan had, by that time consolidated his power, by his prudent counsels and good government; and the issue of the war contributed to establish still more securely his power at home, and to extend his reputation abroad. He marched against the confederated chiefs; the armies engaged at a place called by the early chroniclers who mention the fact Brunenburgh; but where Brunenburgh is no one now knows, except that it was in some part of the ancient kingdom of Northumbria. There Athelstan gained a complete victory.

The victory at Brunenburgh is celebrated alike in Saxo
history and Saxo song. More was said and thought of it than of any battle in which the Saxons had been engaged. It was called the Great Battle. Among the Saxo poems which have descended to us, it is the strongest witness of which the subject. No unfavourable idea will be formed of Saxo poetry from the following passages in it:

"Here Athelstan King,
of earth the lord,
the son of that illustrious brother of the nobles,
and the other also, Edmund the English king,
the Elder! a lasting glory
blessed by a war of battle
with the braves of the Northmen
at Brunenburgh,
inside the Northmen killed, they killed the nobles' bawees,
the survivors of the family,
the old men, all.
As then it was natural
from their ancestors,
shout they in the field often
when they have been called, their land should defend,
their treasures and human,
Pursuing, they destroyed
the Northmen and the ship-flock.
The dead fell,
the warrors died,
the winter furted.
After the victory of the morning hour,
the present star,
that gentleman.
One effect of this victory was to extend the name and reputation of Athelstan beyond his own shores. He had from that time great influence in the affairs of neighbouring kingdoms. His sisters were given in marriage to the king of France, to the emperor of Germany, and a king of the North. His influence in the general politics of Europe, and the high respect in which he was held, have been very largely shown by Mr. Sharon Turner, in his History of the Anglo-Saxons. Mr. Turner has collected his facts, not from our own historians and chroniclers, who have scarcely touched upon these parts of the history of Athelstan, but from the historians of other nations. On the whole, it is flattering to the national pride of Englishmen to think that when the tenth century arrived, when the friends of Charlemagne, so in the tenth century Athelstan may be said to have held the balance of power among the kings of the Continent.

"He was of short duration; he died a.d. 940, being only in his 47th year. His life, as William of Malmesbury, was in time little, in action great; and there cannot be a doubt, that under him England was advancing in consequence as one of the powers of Europe, and in civiliza-

tion and improvement in respect of her internal affairs.

What she suffered afterwards from incursions of the piratical nations of the North, she might possibly have escaped had the vigorous rule of Athelstan longer continued. He had no family, and was succeeded by Edmund, his brother.

Athelstan did not labour more to secure his throne and to extend his power and political influence, than to give security and local government to his subjects. He was fond of giving acts of specific and personal kindness to his people. He was a writer of books, and left a code of laws which Athelstan made additions, the principle on which he proceeded being to bring all classes, the ecclesiastics as well as others, within the scope of certain great principles. There are traces in his laws of a noble provision for some of the poorer members of the community of his subjects. He promoted the erection of monasteries, which was in fact at once to provide seats and centres of religious ministration, and places for retirement and security to persons devoted to study. He was the author of the value of books at a time when 'book-ers' as scholars were in those times called, were few. A catalogue of a small collection of books which belonged to him is preserved, and has been printed by Mr. Turner. He encouraged the translation of the Scriptures and other religious books. The monks of the abbey of Bath, even to the time of the Reformation, were accustomed to show to visitors certain manuscripts which they affirmed to be the gifts of King Athelstan. Two very antient manuscripts, which there are in the Abbey, are the oldest works which are preserved among the Cottonian Manuscripts in the British Museum: one of them is supposed to be the very copy of the Gospels on which the Saxons took the oath at their coronation. Athelstan was buried in the abbey of Minster.
work of Athenagoras, was printed at Paris by Daniel Guille- 
lemont: it was entitled "De Vrai et Parfait Amour, écrit en 
Grec, contenant les amours harmoniques de Théogène et Cha- 
rus." 

ATHENE, or ATHENA, the Goddess of Wisdom, of 
Arts, and of Sciences, among the Greeks; known to the 
Romans as Minerva. The Greeks seem to have included 
under this name the most diverse deities of different 
origins—a goddess of Libya, the daughter of Neptune and of 
the nymph Tritonis (Herodot. iv. 180), or of Terra, brought 
forth on the banks of the river Triton in Libya (Diodor. ii. 
4), but the one best known to us is the divinity worshiped 
by the inhabitants of Attica, and that is Athena, known in 
Egypt, at least if we may judge from some of the symbols 
with which her statue was adorned: she had a sphinx on 
her helmet and at her feet. (Plato (Timaeus, , Opusla, vol. ii. 
p. 21) tells us that she was called Neith by the Egyptian 
and Braithes, in his Catalogue of the Kings of Thebes 
(Euseb. Chron. p. 21), says, that 'Nictoria' may be trans- 
lated into Greek by 'Athene Nikephoros.' 

According to Homer she was the daughter of Zeus; but 
there is no allusion in either the Iliad or Odyssey to 
the female of her having sprung forth completely armed 
from the brain of that god: it appears, however, in the 
Hymns to Athene, usually ascribed to Homer. A scholar on 
Apollonius (Argos, iv. 1310) remarks, that this female first 
was worshiped by the inhabitants of Attica; and that 
its origin is the result of this strange union. She seemed 
heavily burdened, and her father had given her to his 
wife, the daughter of Tithonus, and to the gods. In 
her battle with the giants, she overthrew Enceladus with 
the aid of her father; she assisted the building of the 
ship Argo, and a wooden figure of Athene graced the prow 
of the vessel; she assisted Hercules; gave the art of 
prophecy to Tiresias, and immortality to Tydeus, though 
she afterwards deprived him of it. She was one of the three 
gods asked by the people of Athens. The overthrow of 
Paris, and she dispelled with the name of giving 
name to the city of Cercopes. [See Athens, p. 14.] 
The contest was decided in her favour by the production of 
an olive tree, and the city was hence called Athens. (Aphol. 
Bibb. p. 14.) According to Diodorus (f. 12), the Egy- 
pptians gave this name to the Goddess of the Air, and she 
thought to be the daughter of Zeus, because the air is not 
naturally subject to corruption; and was sprung from his 
brother; she was the greatest of all the Graces. 

She was called Gladis (blue-eyed), because the air is of 
a bluish colour. The serpent, the owl, and the cock, were 
sacrificed to her; and, among plants, the olive. She was 
worshipped in all parts of Greece, and the most celebrated 
temple was at Pergamus, which was adorned with the 
most costly ornaments. 

The statues of the goddess, called Palladia, exhibited her 
in very antient times with upraised shield and poised spear, 
ready to engage in battle; sometimes, as symbols of her 
peaceful character, she had in her left hand the spindle and 
DISTAL. A stiffly-folded peplum was thrown over her chiton 
(tunic), and she was armed with an immemorial agnus, which 
sometimes served as a shield, and sometimes was so 
construed as to cover both the breast and back. The outline 
of the body exhibits none of the fulness of woman in the 
arms and breasts, while the form of the bones, arms, and back, 
reminds one of man. But the age of Phidias changed 
considerably the antient characteristic marks of the different 
sexes; and from that time the goddess Athene was 
ubiquitous, a forehead, long and well-formed nose, by the 
swell of the mouth and cheeks, the strongly marked and almost angular chin, the wide-open eyes, and by the hair streaming carelessly over her neck. The effects of the incrustation of the statue of Athena (which 
was still extant); and numerous examples are pointed out by 
Müller in his Archäologie der Kunst, where the subject will be 
found fully treated. A fragment, supposed 

ATHENIEN, a Sicilian slave, one of the principal 
setters in the second Servile war which broke out in Sicily, 
and lasted from the year B.C. 109 to 99. By birth he was a Cilician; he had acquired considerable reputation for 
his military talents in a campaign against the enemy, and 
had been selected by a committee of the Senate to 
command a legion. He was a man of uncommon order, not so much from the short-lived prosperity which he enjoyed, as from the 
unusual tenor of his policy. He filled the station of 
envoy or overseer to two wealthy brothers, and, after the insurrec- 
tion had commenced in other parts of Sicily, began his 
career by gaining over the slaves under his own charge, to 
the number of 200. Other slaves flocked to his standard 
from neighbouring properties, so that within five days his 
followers amounted to 1000 men. He then assumed the title 
of consul, and the state of a new nation, and made all others subject 
by a reflecting mind, well adapted to command. He did not 
freely receive into his ranks all persons who presented 
themselves; but selected for soldiers those who were best 
acquainted with arms, and made all others labour at their 
respective callings: so that he avoided the disorder incident 
to a tumultuary and ill-provided force, and was always 
abundantly supplied with necessaries. He also carefully 
guarded against wanton ravage by a judicious use of his 
prophetic powers; for he had professed to his followers that he was 
destined to reign over Sicily, and that it was wise to pre- 
serve uninjured the land and its produce, as part of their 
own future wealth. He soon collected 10,000 followers, with 
a small army, which he laid siege to Lilybaeum. In this attempt he 
failed; but by the end of the year, 102, he 
increase his power over his followers, by verifying his powers 
of divination. Another slave-leader, named Salivius, who 
attacked his camp, had assumed the name of Athene. Tryphon soon 
that he had received a jealousy for his new associate, whom he im- 
printed; but he was glad to release and restore him to his 
command, when Licinian Lucullus, with an army of 16,000 
or 17,000 men, was sent by the Senate to bring the war 
to an end. The danger caused him to retreat to his 
family. He received the news of the great insur- 

taneous and severely wounded. Lucullus then laid siege 
to Tricomas, in which the insurgents were defeated, and 
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and severely wounded. Lucullus then laid siege 
to Tricomas, in which the insurgent
two members to parliament. It is a very old corporation, and is governed by a Portreeve. Its former name was Athroth. It is 117 miles W. by S. of Dublin, and 14 E. of Galway.

There are three fairs in the year. The church is in good repair. The London Hibernian Society and the Kildare Place Society unite with the incumbent in the support of a free school, in which about forty children boys and girls are educated. The population of the town in 1823 was 1693: that of the whole parish, 12,500. This last statement includes the population of the chapelry of Montrose; in which are a chapel of ease and several free schools, including a charter school, and two schools connected with the Kildare Place Society. The living is a consolidated rectory and vicarage, in the diocese and county of Tyrone.

There was a Dominican friary in Athboy, which was burnt in the year 1432. The remains show it to have been a fine building; the great east window is bold, and of good workmanship. Part of the ruins have been taken down to erect barracks. A Franciscan friary was also founded here in 1464.

This town gives name to one of the baronies of the county. (Parliamentary Papers: Seward's Topog. Hibernia.)

ATHENS, or ATHENAS (Ἀθῆνα), the chief city of Attica, one of the ancient political divisions of Greece.

We propose in the following to give a brief description of the topography of the city, referring to Attica for the geographical description of the province; and next, a brief outline of its political and literary history, referring to the proper articles for the minutest detail.

Athens is situated about five miles from the sea-coast, 27° 50' N. lat., 23° 43' E. long., occupying part of the central plain of Attica, and some heights which run down into the plain, but are quite detached from the mountains on the north frontier of the province. Of these eminences, the most conspicuous are Mount Anconemus (now St. George) with its peak summary rising higher than the Acropolis, on the north east of the city; and beyond the ancient walls, the Acropolis, which was entirely included within the old walls; the Aeropagus, opposite to the west end of the Acropolis; and the hill of the Museum, partly included within the ancient walls, the highest eminence on the south. On the east side of the city, the little river Iliusus, which rises a few miles north east of Ambolókipo, runs in a south west direction past the city, separating the heights of Athens on the west, from the higher and more continuous range of Hyetussus on the east; it joined a little above the site of the Lyceum by the Eridanus from the east. This little river, which in its natural state might have reached the marshy lands near the coast, is now reduced by the heat of summer and the channels for artificial irrigation to an inconsiderable stream; and in ancient times its current must have been diminished from the same cause. The Cephissus, which runs due south past the west side of the city, at the distance of about a mile and a half from the walls, is also near the walls from the Pericorm is by N. by compass, as near the walls from observation of their existing foundations. The southern wall, which ran from the city to the Phenereum, was called the Phenereic wall; the northern, which ran from the Phenereic Gate to the Phenereum, and was a double wall, was sometimes called the Long Walls and sometimes the Phenereic Wall. (See the plan annexed to the

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[Plan of Athens, from the authorities of Col. Leake and Mr. Cockerell]

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[Plan of Athens, from the authorities of Col. Leake and Mr. Cockerell]
map of Attica.) That part of the city walls included between the two points where the Phaleric and Peiraiac walls respectively said on them is not included by Thucydides (i. 13) in his estimate of the extent of the city walls which required defence; and we must, in like manner, deduct from the circuit of the city the Peiraeus and the Munychia. We are on the land side between the western extremities of the Phaleric and the Peiraiac walls. The circumference of the city, then, according to Thucydides, in B.C. 431, was—**Sndia
The City, deducting the part between the Peiraiac and Phaleric Walls**

**43**
The Phaleric Wall

**38**
The Peiraeus Wall

**564**
The Maritime City, deducting the space between the Phaleric and Peiraiac Wall

1744

This will give a total circuit of about nineteen or twenty miles. (See Lassie's Topography of Athens, p. 368.)

The chief Gates of Athens, as far as their position can be with any probability determined, are indicated in the plan. The cemeteries of the city surrounded it on every side, but were reserved chiefly for the Athenians, having been determined as they commenced immediately on the outside of the walls. The road from Dypplum to the Academy was lined with the tombs of illustrious men, such as Pericles, Thrasylalus, Chares, and Phidias. Here too were the monuments erected to the memory of those who served as **poliarchs**; a slab of stone, with the name and township (θυγας) of each individual, was the honour paid by the state to its citizens who died in battle. (Pausanias, i. 29.) The Academy itself was surrounded with a wall, planted with trees, and ornamented with fountains of water. Near it was the tomb of Plato.

The tomb on the east side of the city were separated from it by the Gardens (Kýrēs), the Lyceum, and the City Gate which is now Port Baccho. It is said that if we approach too near it, it is dangerous. The wall which surrounded the city was strengthened at intervals with towers; there were also square towers on the long walls which connected the city with the ports. These walls (the Peiraeus and Phaleron) were about four miles in length, and at a distance of 250 feet from one another; when the city was in its highest state of prosperity, the open space between them contained a considerable number of houses, which formed a kind of intermediate town between the Astr, or Upper City, and the Permeus.

The three ports of Athens, going from west to east, were the Permeus, now Port Dthrakio, which contained three natural bays: the Munychia, now Stratotiki, separated from the Permeus by the round projecting and hilly peninsula of Munychia. It has been decided that these three parts, with the buildings attached to them, once formed a separate city larger than Athens itself. A sea wall, sixty Greek feet high, and constructed of wrought stone, extended from the bay of Phaleron all round the rocky peninsula of Munychia, terminated by Cape Alkinos; the north-west and east side of the Permeus was also inclosed by a wall running down to the sea; a wall ran from the Phaleron across the high ground to the head of the middle bay of the Permeus, and a third wall ran across the narrow isthmus of the Munychia. The importance and strength of the fortifications of the maritime city, and especially of the Munychia, appear from the siege of this place by Demetrios Poliorcetes, and by Sulla; the possession of which was a matter of much moment to the Permeus. The Permeus was the great dock-yard of the Athenians, and the chief harbour for the vessels engaged in the corn and other foreign trade. It contained large warehouses, public arsenals, the armoury of Ptolemy, several temples, a theatre, and many houses with porticoes and arcades (παράκλημα καλαμάς) analogous to the bazaars of Eastern cities, which probably contained the Deigma (a place for the exhibition of samples of goods), and Pheiae (a court of market). Among these are the Peiraeus and other buildings. The most remarkable of the Peiraeus, nothing now remains but some traces of foundations and broken pieces of sculptured marble. The port, though its entrance is very narrow, is still a safe one: the ground inside is very good, and rather to the southward of the centre a ship may drop her anchor in about seven fathoms still water, and move with open hearts towards any part of the compass, for she will ride so secure that neither wind nor sea can hurt her." (Capt. W. H. Smyth.) The peninsula of the Munychia contains the foundation of a temple, the remains of a small theatre, and clear indications that it was extensively built upon. Nothing remains of the buildings which once adorned the Phaleron. This line, however, of the extensive system of walls which defended the maritime demi, or town, can still be traced in most parts; and in the Munychia, on the side towards the sea, courses of masonry, both of walls and towers, still exist, formed in some parts of large squared stones cramped with iron. (Thucyd. i. 93.)

We shall endeavour briefly to describe those localities in ancient Athens which seem at present to be pretty well identified. It appears probable that even in its best days the first appearance of Athens was not very pleasing, and that its attractions were mainly due to the picturesque beauty of the wanderer of the latter part of the century (B.C. Deme- arcus, Hud. Min. Geog. vol. ii.) describes the city as dusty, and badly supplied with water, and the streets did lay out, a fault which he attributes to the great extent of the place. Most of the houses were mean, and only a few good. 'A stranger, on the first view,' he adds, 'might doubt if this is Athens; but after a short time he would see that it was.'

The most striking object is the Acropolis, or Citadel, a rocky range which rises abruptly from the plain, and covered by the Parthenon. Opposite to the west end of the Acropolis, and separated from it by a depression, is the Acropege, or Hill of Mars, on the eastern and highest extremity of which was the altar of the Aretopous. See [Arcophagi].

Adjacent to this hill was a place on which the public meetings were held in the more antient period of the state, and where a bema, or pulpit of stone, still marks the place from which the assembly was addressed. (Ov. Fast. iv. 899.) Compare Lassie, p. 42, and art. ATTICA. Erch. and Gruber.

North of the Acropolis is the Temple of Theseus, built of Pentelic marble, one of the best-preserved buildings of ancient Athens. At first sight it appears so entire as to make us wonder if it was not originally intended to be erected about B.C. 470-465. It is a Doric temple of moderate dimensions; a peripteral hexastyle, with thirteen columns on each front. The eastern pediment was adorned with sculptures, as well as the ten metopes of this front, and on the four adjacent sides of the whole front. All these metopes, which appear to refer to the exploits of Theseus and Hercules, and also of the frieze, are in the Elgin Room of the British Museum. (See TURMUS, and Stuurt's Athens, vol. ii.)

Near the east of the Temple of Theseus are the remains of what is probably the Stoai or Portico of Hadrian, one of the monuments with which this munificent emperor embellished the city of Athens. It is not exact to state, Ninth and Archeological, the year it was erected. The west colonnade of this building corresponds to that of the Arch of Hadrian; still it seems most likely that these remains are part of the great work of that emperor, described by Pausanias (i. 10), who informs us that the Stoai of Hadrian was adorned with a hundred and twenty columns of Phrygian marble, and contained apartments whose roofs were 'gilded and made of alabaster:' it contained also a library, and the apartments were decorated with statues and paintings. The Gymnasium of Hadrian was probably near the Stoai; and the Gymnasion of Polyeuma between the Stoai and the Temple of Theseus. South of the Stoai is the Tower of the Winds, called also the Tower of Andronicus Cerebes. See [ARCONIDUS]; and Stuart, vol. i. p. 42.) The Gate of the Peiraeus, now New Agora, was once the place of the Great Stoai and the Tower, still exists: it is a portico of four fluted Doric columns, of Pentelic marble, supporting an entablature and pediment. See the view and plans in Stuart, vol. i.)

The south-east quarter of the city, which is entered by the Arch of Hadrian, was one of the oldest parts of it, next to the Acropolis. This building of Pentelic marble, consists of a circular arch with Corinthian columns, the capital of each supporting one or more columns of Corinthian columns, surmounted by an entablature, with a pediment in the centre. (See Stuart, iii. 90.) An inscription upon the frieze on the south-east side of the arch still testifies that the emperor gave his name to the part of the city formerly on the site of the Acropolis, and that he stood the magnificent temple of Jupiter Olympus, which being re-commenced about B.C. 176-165, on the site of an
older temple, and worked upon at intervals, was at length finished by the liberality of Hadrian. Sixteen columns of Pentelic marble, 60 feet high, and above 6 feet in diameter, are all that now remain of the 138 which once adorned this magnificent building, one of the largest erected by the Greeks in honour of their deities. (See Stuart, ii. p. 83.) This temple and its sacred enclosure were filled with statues: two of the emperor were made of stone from Thasos, and two others of stone from Egypt; the statue of the deity was a chryselephantine (gold and ivory) statue of colossal size.

The fountain called Callirrhoa, or Kanassaerus (the nine springs), the only source of fresh water in the neighbourhood, was only a short distance from the south-east angle of the great temple. There were wells, as Pausanias remarks (i. 14), all through the city, but this was the only source of pure water. An aqueduct from Cephissus on the Cephissus was constructed for the use of the city by Hadrian and Antoninus his successor. The reservoir of water was made at the foot of Acheanemos, and adorned with a frontispiece of four Ionic columns. (See Stuart, iii. 94.) This monument, of which two columns were standing in 1764, is now destroyed.

The quarter called Hadrian's City, on the east side of the Ilissus, is the Panathenaeic Stadium, first constructed by Lycurgus the orator, B.C. 338, and adorned with Pentelic marble by Herodes Atticus, in the reign of Hadrian. All the marble has disappeared; but part of the masonry at the south-east or circular end, and the coves, or part destined for the exhibition of the Panathenaeic games, remains. Its length in the interior is 675 feet.

On the hill of the Museum, which is separated from the Acropolis by a depression, we find the monument of the Syrian mentioned by Pausanias (i. 85). According to the inscriptions it was erected by Phileoppus, or in honour of Phileoppus, the son of Epaphanes, in the reign of Trajan; it contained three niches, two of which remain, in which were placed the statue of Phileoppus himself, occupying the centre, his grandfather Antiochus the last king of Commagene, and that of Seleucus Nicator, the founder of the dynasty of the Seleucids. (See Spon, i. 157. Amst. ed.; Dodwell's Travels, i. 392; and the view in Stuart, ii. 99.)

We have now noticed the chief existing monuments of Athens in the lower part of the city, with the exception of the small choragic monument of Lysicrates, erected about a. c. 334 (the year of Alexander's expedition into Asia), vulgarly called the Lantern of Demosthenes: it stands between the south-east angle of the Acropolis and the great Temple of Jupiter, and is or was partly built up in the buildings of the Capuchin convent. This little edifice, which consists of a circular colonnade of Corinthian columns, resting on a high quadrangular basement, is only six feet in diameter, on the central piece, which rises from the cupola that crowns the colonnade, a tripod originally stood.

Of the great divisions of Athens which appear to be ascertained, we may mention the Inner Cerameicus, adjacent to the Dipylon, within the walls; the Old Agora, in the depression about the Areopagus; the New Agora, on the north side of the Acropolis, the gateway of which, as already observed, and three inscriptions still remain; and Eumenes, or Marshes, a low and originally a swampy part of Athens, which contained the Lunateum, or Temple of Bacchus. This last quarter of Athens was always considered inferior in salubrity to that northerly part of the Acropolis.

The Acropolis, or the old Cecropian fortress of Athens, is a rock, which rises abruptly from the plain, with its sides naturally scarped, except at the west end; its greatest length may be about 1200, and its greatest breadth about 550 feet. Before we describe briefly the edifices which stand on the platform of the Acropolis, we must notice those which stood immediately around its base.

Along the base, on the east side, extending southwards from the supposed site of the Prytaneum, probably ran the street to which Pausanias gave the name of Tripods (i. 29). This street, or quarter, was so called from a number of small temples or edifices crowned with tripods, to commemorate the victories gained by the Choragi in the neighbouring theatre. The great Dionysiac Theatre, the place for dramatic exhibitions, was on the south-east side of the Acropolis; the inner curve was excavated in the rock, and the part which projected into the plain was formed of masonry. In the recess of this excavation, and above the theatre, Pausanias (i. 31) describes a cavern, which was converted by Thrasyllus (A.D. 39), a victorious choragus, into a small temple. A noble seated figure, of colossal size, now generally called the statue of Bacchus, which originally was placed on the entablature of the small temple, is in the Elgin Room (No. 111) in the British Museum. (See article ARK; and the plate in Stuart, ii. 94.) A brass coin of Athens, in the British Museum, represents the interior of the theatre, showing distinctly the seats for the spectators, with the caves (for there are more than one) just under the cliff of the Acropolis; rising above which we observe the Parthenon, and other buildings which stand on the platform of the rock.

The dimensions of this theatre cannot now be ascertained, but we may safely infer it was a very large one. Demar- chus expresses his admiration of its beauty.

On the south-west side of the Acropolis is the site of the
Odeum, or Musical Theatre of Herodes Atticus, named by him the Theatre of Regilla, in memory of his deceased wife. This splendid monument of the munificence of a private individual was erected in the second century A.D., and was the finest building of the kind in Greece.

The grotto of Apollo and Pan, with the little spring, described by Pausanias (i. 28) as close to the Propylaea, is at the north-west angle of the Acropolis, and near some steps which led up to the Acropolis from the northern side of the city, as appears by the following coin from the British Museum, in which the Parthenon is apparently indicated.

At the west end of the Acropolis, where alone the approach is practicable, the open space was filled up with the Propylaea, a magnificent work of Pentelic marble, which served both as an approach and a military defence to the citadel. The front or central part, which was flanked by two projecting wings, consisted of six fluted Doric columns, about 29 feet high, supporting a pediment, and approached by four steps. A vestibule, formed by six Ionic columns, placed in a double row and parallel to one another, stood behind this portico, and led to five openings or doors, of which that in the centre was the widest. The roof or ceiling of this vestibule rested on triple lengths of marble beams laid across the west entrance: the beams belonging to the two side-sides rested respectively on a lateral wall, and the architrave of the nearest row of columns: these beams were about 22 feet long. These lying across the central passageways about 17 feet long. On these beams rested the slabs of the ceiling, which was decorated with various ornaments. The five openings led by steps, into a portico which flanked the platform of the Acropolis, and had a front and pediment similar to that at the western entrance of the Propylaea. This beautiful work has suffered grievously since the occupation of Athens by the Turks. A great part of the eastern side of the Propylaea was destroyed, about 1856, by an explosion of gunpowder (Spon, ii. 107), that took place in the part between the five doors and the west front, which had been fitted into a powder-magazine. Spon (ii. 164) describes the west front, with its pediment and the Ionic columns of the vestibule, as existing in 1675; but the upper part of the west front is now entirely gone. [See Stuart, iii. 104; and Pasoplinos.]

The chief ornament of the Acropolis was the Parthenon (erected about B.C. 450-440), or Temple of the Virgin Goddess Minerva, which stood on the highest level of the Acropolis, and was built of the hard white marble of Pentelicus. This noble monument of ancient art is now greatly damaged, though a few centuries ago it was probably in a state little worse than it had been for two thousand years before. It suffered from the ravages of war between the Turks and Venetians, and also more recently in our own time. The columns and the sculptures which decorated the pediments, with many of the metopes and a large part of the frieze, are now in the Elgin collection of the British Museum. These sculptures form an epoch in ancient art, and, together with the temple to which they belonged, will be the subject of a separate article. [See PARTHENON.]

The position of this temple is indicated in the plan of the Acropolis; it is at 37° 36' 50" N. lat.; 23° 49' 31" E. long. (Captain W. H. Smyth.)

Of the other remains on the Acropolis, the most interesting is the building, which, consisting of various parts, is now commonly known by the general name of the Erechtheum. The site of this edifice is denoted in the plan; its details require to be treated separately. [See ERECHTHEUM.]

The south portico of the Pandroseum (which is a part of this edifice), instead of pillars, was supported by six female figures, about seven feet high, technically called Caryatides, one of which is now in the Elgin collection; and another had disappeared even when Stuart and Revett visited Athens in 1750.

Besides these, and other smaller edifices which adorned the Acropolis, it contained a prodigious number of statues and other works of art—some of colossal size, and others distinguished for their exquisite beauty. The bronze colossal statue of Minerva the Defender (Ἀθηνᾶς Ἐρυθρώτης), the work of Phidas, is probably the statue represented on the coin which shows the steps of the Acropolis. The spear and helmet of this colossal figure (Pausan. i. 28) were visible towering above the Acropolis to those who approached Athens by sea, as soon as they had rounded Cape Sunium.

The Propylaea formed the western entrance of the Acropolis; the rest was surrounded by a strong wall. That on the north side was called the Pelasgicom, a term also applied to that part of the city immediately below it, and by Herodotus (v. 64) to the whole Acropolis. According to tradition, the north wall was built by the Pelasgi; possibly the existing wall may be part of this original construction, which, in all probability, is the oldest existing monument of Athens. The south wall was built, or probably rebuilt, and strengthened by Cimon, the son of Miltiades, from which it took the name of Cimon's wall; in some parts it is sixty feet high. Near this south wall, as Pausanias tells us (i. 25), was the representation of the wars of the giants, the battle between the Athenians and the Amazons, the battle of Marathon, and the defeat of the Gauls in Mysia by king Attalus I. [See ATTALUS.]

At the close of the late Greek war, Athens was in a dreadfully state, being little more than a heap of ruins, and almost without inhabitants. At present, building is going on in the north part of the city, and if the unfortunate country of Greece can enjoy security, we may hope that, in a few years, the town will be in a more flourishing condition than it has been for many centuries. The excavations that are made for the purpose of erecting new buildings will probably determine some sites hitherto uncertain, and bring to light some valuable monuments of the best ages.

The authorities which may be consulted for the topography of Athens are very numerous: Strabo, book ii.; Pausanias, book i.; with the scattered passages of other Greek and Latin writers; Spon and Wheler; Chandler's Travels, of which there is a French translation, with notes, by B. d'Outre; Stuart's Athens, 4 vols. folio, republished by Friensley and Wesley, London, 1827; Leahy's Topography of Athens; Wilkins's Atheniense; and Elgin Marbles, 2 vols. 12mo., published by the Society for the Diffusion of Useful Knowledge, in which these and other authorities are more particularly referred to; see also Encyc. of Erch and Gruber, art. ATHENES A.D. 1821.

History of Athens.—The origin of civil communities is generally unknown, and that of Athens does not form an exception to the remark. Our object here will be to give a brief sketch of the history of this state, referring to the particular heads for a more detailed account of the most important periods and events.
The first period of Athenian history, ending with the war of Troy, is of a mythical character. Aegeus (Pausan. i. 2.) was the first king of Athens. Cocus, according to one fable, was a native of Athens, who married the Daughter of Athene. According to another fable, Cocus was an Egyptian, who brought from Egypt the arts of social life, and laid the foundations of the religious and political system of the Athenians. The name of Cocus, whatever it may have been, among the Athenians to the latest epoch of their existence as a people. Of the successors of Cocus, Erechtheus the first, otherwise called Erechtheus, was of divine or unknown descent; his name also survived and retained a place in the religious observances of Athens. In the reign of Pandion, the son of Erechtheus, Demeter (Ceres) was wandering on earth in quest of her lost daughter; out of gratitude for information about her child, the goddess taught Triptolemus of Eleusis the art of agriculture, and the Athenian plain was paved with a harvest anither unknown to man. A second Erechtheus fought with the Eleusins of Eleusis, and lost his life. Theseus, the son of a Pandion, in course of time came to the throne, and his son Theseus was the last, so he was the greatest of the Athenian heroes. Theseus was the friend of Hercules and Perithous; and the venerable Nestor, who assisted the Greeks with his counsels at the war of Troy, had fought, when a young man, in the same ranks with Theseus. When Theseus was at the time of the Athenians, he was persecuted by his martial exploits against the bull of Marathon; by his descent to the infernal regions; his voyage to Crete, and his combat with the Centaurs. As the reputed founder of the Athenian polity, who united in one confederacy the several states or petty kingdoms of Attica, established by Cocus (Strabo p. 397), he appears to be invested with the character of an historical personage. (See Thucyd. i. 13.) Theseus is also said to have instituted the great festival of the Panathenaea, in commemoration of the political union of all Attica. (Pausan. viii. 2.) To the latest period of their history the Athenians retained the grateful remembrance of this hero, and the beautiful temple, which is still called the Theseum, has preserved to this day a fragment of a marbled statue of Theseus, period when the truth of history is wrapped in the impenetrable veil of the myth of the Greeks.

The Athenians sent fifty ships to the war of Troy, under the command of Menestheus, who had driven Theseus from Athens; but neither the general nor his soldiers occupy a conspicuous place among the worthies of Homer. If we endeavour to trace the history of the Athenian people, we find the obscurity of their origin expressed by the fact that they were driven from the land which they inhabited. Herodotus (v. 57) says that the Athenians were originally Pelasgians, and that they became changed into Hellenes (Greeks). Such a change implies the conquest of the country by one race while it was still in primitive condition, of another; the amalgamation of the conquered and the conquering races, or the extinction of those who were compelled to yield. The former we believe to be supported by more probabilities. Xuthus, the son of Hellen, married a daughter of the second Erechtheus, and was the father of Athene and Ion; thus the name Ionian became attached to the Attic soil; and we have the historical fact, that the names of the four tribes which existed till the time of Erechtheus were derived from the names of four sons of Ion. (Herd. v. 66; Pausan. vi. 1.) The Athenians, says Herodotus (v. 44), in the course of occupation by the Pelasgians of the country now called Athens, were Pelasgians, with the distinctive name of Cratus. From Cocus they received the name of Coccus, and upon Erechtheus succeeding to the royal power, their name was changed to Athens. After Ion, the son of Xuthus, had become the leader of the forces of the Athenians, the people got the name of Ionian. In the fable of Poseidon and Athens (Neptune and Minerva) for the possession of the sacred island of Athens, Poseidon, the god of the Ionians of Helle and the national god of those who were afterwards the Ionians of Asia, contested, though unsuccessfully, against Athens, the primary possession of the sacred island and the worship of Poseidon was not neglected in Athens: the Erechtheions preserved the remembrance of the contest, and the altar which it was usual to sacrifice (Pausan. i. 26) both to Erechtheus and Poseidon, indicated that the mythical king was the representative of the deity whose worship strove for the supremacy. Among the various names by which Athens was known, we find that of Poseidon, or the City of Neptune (Strabo p. 397); the same name itself was given to eight different places. (See Stroh, Byzant. 425.)

The fable of the two deities contending for Attica is represented on a coin of Athens.

The remembrance of the Pelasgians was retained in the name of the northern wall of the Acropolis, of which they were the architects, and in that part of the city which was below it in the plain. Tradition, however, reported that the Pelasgians, or that portion of the old inhabitants, of which did not concur with the new comers, were finally driven out of Attica, and retired to Lemnos. The connexion between the Lemnians and Thracian Pelasgians and the Athenians seems sufficiently indicated by old traditions and other circumstances. The Pelasgians who were in Attica in the time assigned to the reign of Cocus; and it has been remarked (Erich and Gruter, Ench. Attic) that the analogy of the name Pallus to the Thracian peninsula Pallene, and of the mountain Athos to the name Athenes, appears to indicate the Thracian origin of these Athenian denominations.

The line of Athenian kings, whatever may have been its historical commencement, terminated with Codrus, son of the Messenian Melanthus. Melanthus, himself a fugitive, had received the Ionians, who fled from the Peloponnesus before the victorious Heracles (a. c. 1101), partly, as it is said, for the sake of Ion, that is, because they were kinmen, and partly because the Athenians wished to strengthen themselves against the Dorians. On the death of Codrus, a full year elapsed before a new king was elected, and it was the time assigned to the reign of Cocus; and it has been remarked (Erich and Gruter, Ench. Attic) that the analogy of the name Pallus to the Thracian peninsula Pallene, and of the mountain Athos to the name Athenes, appears to indicate the Thracian origin of these Athenian denominations.

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Egypt, which country he is said to have visited; of Creusa, king of Lybia, whom he married and ruled; and of Thrandus, the founder of the Persian empire. With the legislation of Solon (c. 594), Athenian history begins to assume a more definite form, and the same epoch marks the historical commencement of that series of events which brought about the rise of the Athenian state, and its connexion with the south of Europe. Tradition assigned to Theseus the credit of laying the foundation of their democracy. (Plut. Them. 25.) Of the regulations (tetrarchies) of Draco (c. 628), the predecessor of Solon in legislation, we know but little. The Peloponnesian war necessitated several modifications of these, which require an almost entire change. [See DRACON.] The constitution of Solon was designed to maintain the chief political power just where it was—in the hands of the rich, whom he did not affect to regard; but to give more power to the people, and to them alone he gave the privilege of filling public offices; but by allowing the fourth or poorest class to be members of the ecclesia, and to be the dekoi or jurymen in the courts of justice, he laid, perhaps unintentionally, the foundation of a pure democracy. Besides the nine Archons, the administration was managed by the senate (boule) of 400, each of the four tribes supplying 100 members. [See ARKOPAGUS, SOLON.] The usurpation of Pisistratus (c. 540), who by fraud and force seated on the supreme executive power, was followed by a system of laws; but it certainly must have changed, for the time at least, a great part of the constitutional forms of Athens. Under the title of tyrant (tyrannos), a term at that time not necessarily implying vice or ignominy, Tyrannus was elevated to the seat of power. He was twice expelled from Athens, but a battle on the field of Marathon at last secured his power, which he transmitted to his son Hippias. [See PISISTRATUS.] His successor had neither the ability nor the disposition to follow in the footsteps of his father. Tyrannus, who was banished, lived out of Athens (c. 510) by the aristocratic faction of the Alcmeonids, who, by corrupting the oracle of Delphi, brought against Hippias the power of Lacedaemon. Cleomenes, the head of the Lacedaemonians, was appointed in Athens, a young man on this business. Hippias being expelled retired with his family to Elisium on the Hellespont, a possession which had been acquired by the arms of his father. Pisistratus and his son held the tyranny of Athens for thirty-six years (Hercod. v. 63), during which time we may reasonably infer that all tendency towards a democratical form of government was suppressed: but the arts began to flourish under their rule, and the foundation of the temples of Apollo Pythius and Jupiter Olympius was assigned to the period of their government. The downfall of this antient (seen Hercod. v. 63) and powerful family was the signal for the commencement of party strife, and for the consequent development of the democratical principles.

Two factions now divided Athens, headed respectively by Clearchus of the family of the Alcmeonides, and Isagoras, the son of Tandar. [See CLEARCHUS.] Clearchus changed the number of the tribes (eisai) from four to ten, and by this extraordinary act he made himself the most pre-eminent of the Athenians. The senate (boule) of 400 was changed into 500, fifty members being annually chosen from each tribe. His rival called in to his aid Cleomenes, who, though at first successful, was finally baffled in his attempts on Athens. This invasion of Cleomenes is worthy of notice, for having led to the first recorded communication between the Athenians and Persians. The Athenians, wishing to strengthen themselves against another threatened invasion, sent ambassadors to Artaphernes, the Persian governor of Sardis, to offer all the tribute; after which the Athenians were, and where they lived, promised help on condition of their giving to the king of Persia earth and water, the usual signs of submission required by the great king. The ambassadors intrusted it to the Persians, and, on their return home, were well abused for their pains.

The issue of the Spartan attack, which was so much apprehended by the Athenians, was more favourable than they had anticipated: the Corinthians, who had joined in the attack on Athens, retired. Under the direction of two Lacedaemonian kings, Cleomenes and his colleague Demaratus, quarrilled at Eleusis just before a battle was expected, and the Peloponnesian army consequently dispersed; and the Athenians were thus left at liberty to dictate terms. The Athenians, however, had gone to a concert with the Peloponnesians, had crossed the frontier. The Athenians gained a complete victory over the Boeotians and Chalcidian, crossed into Euboea, and laid waste four thousand Athenian colonies in the territory of Chalcis. The Persian king, hearing of this, sent to Artaphernes, on the invasion of the Lacedaemonians, and urged his claims to be restored to the sovereignty of Athens. Though supported by the leading state of Peloponnesus, Hipippus failed in obtaining consent of the rest of the allies, and the Athenians, soon afterwards, made an expedition to occupation of Sardis, from where he endeavored to maintain his desperate cause by exciting Artaphernes against the Athenians. An event soon happened which was favourable to his views. The Athenians, under the command of Artaphernes, in twenty ships, to which the Eretrians of Euboea added five, were opposed by the Ionian Greeks, who had revolted against Darius. The confederate forces succeeded in burning Sardis, which was the immediate cause of the invasion of Greece. An immense armament, under the command of Datis and Artaphernes, crossed the Aegean, besieged and took Eretia in Euboea, and landed on the opposite coast of Attica. The aged exile Hipippus led the Persians to the plain of Marathon, the scene of his father's victory, a spot well adapted for the operations of his army. The Athenians, supported only by the Platans, under the command of Miltiades, defeated the formidable army of the invaders (c. 490), which retreated in ships to the coast of Darius, which was the battle of Marathon.

Ten years later, Xerxes, the son of Darius, led in person against Greece one of the largest forces of which we have any trustworthy record. The army, accompanied by the fleet which attended its movements along the coast, advanced through Thessaly, took possession of the pass of Thermopylae, where the gallantry of Leonidas for a short time opposed its progress. The treachery of the Boeotians, and the cowardice, or lukewarmness of the Peloponnesians, allowed the Persian army to march unopposed through Boeotia into Attica, while the fleet followed the coast and took its station near Salamis. The Athenians were compelled to leave their city to the invaders, and embark on board their fleet. Fortunately for them in this contingency, they had already a considerable naval force, which, at the advice of Themistocles they had raised for the purpose of contending with their troublesome neighbours in the island of Eginia. In the sea fight of Salamis (c. 480), the Persian fleet was entirely ruined by the combined naval force of the Athenians and the other Greeks, and the Persian king made an inglorious and hasty retreat into Asia, leaving behind him Mardonius with about 300,000 men. Mardonius, having entered Athens a second time and making a further attempt to detach the Athenians from the alliance, burnt and destroyed all that Xerxes had left untouched, and reduced Athens almost to a heap of ruins. In the year after the battle of Salamis the Athenians completed their new fleet, and Plataea, by the combined Grecian forces under the command of Pausanias the Lacedaemonian. [See XERXES, SALAMIS, and PLATEA.]
to the orator and the successful commander, in whose person from this time forward, and indeed probably from a still earlier period, was centered the real executive power. [See Aristides.]

After the battles of Platae and Mycale, and the capture of Sestos, Athens was still thought desirable among the confederate Greeks to prosecute the war against Persia. The Lacedaemonians, hitherto considered the head of the confederation, were little disposed for foreign service, and Psammetichus, their commander on the Hellespont, was detached, after giving battle, by the influence of his allies by self-interest and tyrannical behaviour. The lead was thus transferred to the Athenians (c. 477), who in a short time contrived to turn this to their own profit. A certain quota or rating of men and ships was exacted from all the states of the confederacy in order to provide a common fleet, about the command of which all the states of the confederacy were equally interested, and from which the Athenians obtained the use of a large share of the public money, with which the Athenians formed and maintained a force by which they ultimately reduced many (who were hitherto allies) to the condition of dependent and tributary states.

Thus arose the Athenian naval supremacy, which for a time gave them a more extensive empire than any Grecian state ever acquired, till the time of Philip and his son Alexander. The efforts and the success of this little state till the thirty years' truce (c. 445) were truly surprising. Cimon, the son of Miltiades, took Elizon on the Strymon, decisively defeated the Persians (c. 465) in a great battle on the Eury- meon in Pamphylia, took Nazo, and took and burned the Athenian fleet at Aegina (c. 450). [See Cimon.] For six years (c. 460-455) the Athenians aided the Egyptians in their rising against the Persians, in the reign of Amasis. They got possession of a large part of Memphis in 456 B.C. and a smaller part of Egypt, in 454 B.C., and were at one time acknowledged as virtual masters of the country. Their final defeat was apparently owing to the want of a vigorous commander, and partly, no doubt, to the want of supplies, which Athens could ill afford to send so far a distance, while constantly engaged in war with her immediate neighbours. Under the command of Tolmides and Pericles, the Athenian empire at home had acquired a very considerable increase of strength by the success of their arms. The extent of their power is not known, but it is thought to have been something like that which Athens held during the thirty years' truce. Athens surrendered the province of Aegina, Naxos, and Megara; the two ports of Maroneia, and Trozen; all of them important positions in the Peloponnesus. But their empire in more remote parts had received considerable assurances before the commencement of the Peloponnesian war. Amphipolis on the Strymon had been successfully planted as an Athenian colony; Potidaea, on the isthmus of Parnassa, had fallen into their hands; numerous islands in the Adriatic had been subdued by them. The capture of Eretria, the key of the Euxine, was in their possession, and gave them the command of the supplies of grain from the northern shores of that sea.

The wealth which both the state and individuals acquired during this period, led to the extension and embellishment of Athens. Cimon built that temple of Theseus which still exists, and embellished the Academy and the Agora. During the time of his greatest influence, probably after the battle of Eurymedon, the Long Walls were built. Next to Thucydides and Cimon in order of time, and before them as the beautifier of his native city, we must place Pericles, the son of Xanthippus. Under him were built the Parthenon, the Propylaea of the Acropolis, and the temple of Minerva at Aegina, the Hellespont, Pera, Chalcis, Ithica, and Phidias, executed the noble plans of the orator, statesman, and warrior, who now wielded the power of the democracy; and from the united efforts of the architecs and sculptors they produced the masterpieces which the world has ever seen. [See Pericles.] Athens, which hitherto does not appear to have had any pre-eminence in the imitative arts, was now adorned with public edifices, in which architecture and its sister sculpture, with painting, co-operated. The public edifices by the masterpieces of these three by far transcended any as yet humanized the citize. Nor must we omit to notice the progress which the dramatic art made during this period. Tragedy, if not indigenous in Athens, which however seems to be the probable source of its most complete development, received its first important stimulus from Solon, and possibly from Cleopatra, and was vouchsafed its prime of glory by the introduction of a moral and philosophical character. The great Dionysiac theatre, which was probably commenced early enough to witness the tragedies of Aeschylus, was formed expressly for the exhibition of the drama. Comedy also, said to be of Sicilian origin (but perhaps rather of Greek Magna Grecia), came to Athens in the time of Aeschylus, Aristophanes, and others of the old comedy, while they tried to amuse the people and secure the honours of the prize, often made its pieces the vehicles of political opinions, of personal satire, of moral and philosophical forms of the occasion in its rise, decline, and abuse. Besides the drama, history, philosophy, and science, though they may not have been of Attic origin, took root during this period, and became almost her exclusive property. The development of the mathematical and physical sciences, and the rise of women's education, when the great philosophers, and hardly forms a part of the literary history of Athens.

The Peloponnesian war, which commenced c. 431, forms an important period in Athenian history, and requires a separate consideration. [See Peloponnesian War.] Athens commenced the contest with all the advantages of long experience in warfare, a powerful navy, a large revenue, and numerous subject or allied states. Sparta, at the head of the Peloponnesian confederation, and the most powerful military state in Greece, was urged, both by national hatred and by fear of future danger, to attempt to crush the increasing power of her rival. The war, in its origin, and still more in its progress, was a war both of political and military ambitions: the Dorians, with Sparta at their head, the latter supported by the allies of the Athenians, and the Ionian Greeks against the Athenians, the head of the Ionian nation, and the great advocates of democratic forms. In the second year of the war Athens suffered from a dreadful pestilence, which overtook the city and the neighbour States. After the death of Themistocles by Thucydides (lib. ii.), with the minuteness of an eye-witness and the spirit of a true philosopher. The great expedition to Sicily, undertaken (c. 415) in the wildest spurt of popular miscalculation, tended to bring the war to a terminus. The death of Archidamus also, and the falling out of the Thracians and the Cimmerians, long after the Athenians than their enemies anticipated. The death of the Athenians by Lysander at Aegospotami on the Hellespont, prepared the way for the blockade of the Hellespont by the Lacedaemonians. On the 14th of June, 405 B.C., the Persian and the Lacedaemonian states, in a battle near Aegospotami, were defeated, and the Athenians, whose surrender was hastened by the extremities of famine, even consented to give up all their ships except twelve; to consider the same people their friends and enemies who were the friends and enemies of the Lacedaemonians; and to follow the Lacedaemonians by sea and by land, wherever they might choose to lead, (Xen. Hel. 8. 1.)

Athens, chiefly through the arts of Theron, an Athenian, who transacted the business of the surrender with the Spartans, was placed under the control of thirty men, who were generally called the Thirty Tyrants. They were at first nominally subjected to framacy by the Athenian state. Anmous, by his vigour and prudence brought about a counter-revolution, after defeating the Thirty at the Peiraeus, and restored the constitutional forms of the Athenian state (c. 403), which had survived eight months of despotism which had been paralleled by the Armenian revolution (c. 5). [See Theron, Thrasybulus.]

The subsequent events of Athenian history, to the time of Philip and Demosthenes, require only a short notice here. Inquiries on the part of Persia, and, still more, dissatisfaction with the Athenians, who, in the interim, had taken over the affairs of the states, and other cities against the Lacedaemonians, Agis Saulus was called from Asia to restore the fortunes of his country. The battle of Coronea (c. 394), though it might be a victory to the Spartans, did not leave them in the undisputed possession of their territory, though they were again, for a season, supreme in the deluded buildings that the world has ever seen. [See Pericles.] Athens, which hitherto does not appear to have had any pre-eminence in the imitative arts, was now adorned with public edifices, in which architecture and its sister sculpture, with painting, co-operated. The public edifices by the masterpieces of these three by far transcended any as yet
the head of a combined Greek and Persian fleet. About the
same time as the battle of Coroneia, he entirely de-
stroyed the Lacedaemonian fleet under the command of
Pericles. This was the first time in which the medi-
nimous position of Athens in the land and naval
supremacy of Athens. Conon appeared before the
Persians with the fleet which the Persian satrap Phar
nabas entrusted to him, and a sum of money for re-
building the walls. To Conon belongs the glory of restoring, after a ves-
tion of the Persian expedition, Athens from the
Demoseth. Lepitl. cap. 14), which Themistocles had
first erected by receiving the Lacedaemonians. [See ACHILIAS,
CONON.] The Peace of Antalcidas (b.c. 387 or 386) marks
an epoch in the general history of Greece, though the real
effect of the concord was not felt as the peace was just as worthless as if it
had never been made.

The period to the battle of Mantinea (b.c. 362) is one of
little interest for Athenian history. Thibetes, hitherto a
second-rate power among the states of European Greece,
contended, under Pelopestes and Epaminondas, with the
Spartans for the supremacy of Greece. Athens, during this
period, played an unimportant part, though her naval su-
priority still protected her against the Lacedaemonians, and
made her assistance of some weight in the balance. In
b.c. 376, Chabrias defeated Polias, the Lacedaemonian
commander, who was cruising about Eretria, Corinna, and Androos,
with the view of stopping the Athenian grain ships with their
swarms of corvids, which were waiting at Corinthian in Esburn;
and Themistocles gained another victory over the
Lacedaemonians in the same year. [See CHABRIA.]

The result of the war between Thibetes and Sparta was,
that there remained no state in Southern Greece which
possessed any real power of resistance. The northern
powerful by sea, was detected by the dependent towns and
islands for the oppressive exactions made both by the state
itself and by the commanders of the fleets. Cos, Rhodes,
Chios, and Byzantium united in a league (b.c. 359); Cha-
bras fell in an attack on Chios (b.c. 357), and an attempt
at reduced Byzantium also failed. This, which is sometimes
called the Social War, lasted three years. But at this
time a northern power, Macedon, which hitherto had exercised
considerable influence, advanced into Greece. The
Pompey, gradually began to mingle directly in the affairs of
Greece. The Holy War, or Phocian War [see PHOCIAN WAR],
as it is also called, which arose from apparently small be-
ginnings, brought the Athenians, who joined the Phocians,
to a contest with the Thebans and their allies, who pro-
posed to carry into effect the decrees of the Amphictyons
(b.c. 356). A long and bloody war which ensued was fa-
ourable to the views of Philip of Macedon, who, after several
humiliating defeats, and the loss of his most characteristic style
of fighting, was left to the Amphictyonian council, and was
opportunity of forming a party in Athens, and putting an end to the
war (b.c. 344), which had lasted ten years. The
history of Athens during the period of Philip requires a minute detail
[see Phip.[,], in which the Athenians and Thebans, with their
allies, were defeated by Philip, completely established the
Macedonian supremacy in Greece. In a public assembly at
Corinth, Philip was chosen generalissimo of the Greek nation
in the intended war against Persia; and after his assassi-
nation (b.c. 336), the same honour was conferred on his
son Alexander, who carried into effect that which his father
had designed.

From the Peace of Pericles to the time of Alexander, Athens,
though almost constantly engaged in war, had not neglected
to cultivate those arts which have associated her name with the
history of civilization. Her public buildings were con-
tinuously improved, and her riches were increased. She
was usually defeive to Lycurgus, the orator, the son of Lycon,
who built the Panathinaean Stadium, and provided for the
security of the city by the magazines on the Acropolis, and
by the blast-yards in the Piraeus. He is said also to have
constructed a fountain in the Market of the Odeum of Pericles.
Public speaking, without which there is no road to political power in a democratic state,
had been cultivated in Athens ever since the downfall of the
Empire of the Persians, and the preservation of their
principles to their skill in oratory as well as to their abilities or character.
Antiphon [see ANTIPHON] first formed oratory
as an art at Athens, or was the first who professed to
make it; and the introduction about the same time of the
dialectics of the sophists, of both which oratory and philosophy
availed themselves, made the study of oratory an indispensable
branch of education for all who aspired to eminence in the state. The school of Iseriates was of a different char-
acter from that of Antiphon; he was almost exclusively devoted to the
formation of a true speaker, his aim was to teach the
rhythm of expression. Demosthenes, the great master of
Athenian eloquence, was trained in the most laborious dis-
cipline of that period; from Isocrates he learned to form a
body of polished sentiments. Aristotle taught him to handle
the matter; and his own genius furnished him with the fervor
and the impulse of a complete orator.

After the time of Sophocles and Euripides, we find no
tragic writer who enjoyed any high reputation among the
Greeks, with the exception of Euripides, whose works
have left few fragments remain. But the dramatic art was
by no means neglected. Comedy assumed a new form in the
hands of Alexis and Antiphanes, whose scenes were
equalled only by the first, in the attempt to introduce
new scenes into the drama. But these attempts rose to greater importance during this period, not only be-
cause their art was valued for the pleasure which it gave,
but also for its close connexion with the successful practices of
elegancy, the path to political rank. The actor gained
wealth by his profession, and became also the instructor of
the orator in that which we may call the dramatic art of his
period. Demosthenes himself was indebted to the actors
Saturus and Andromacus for his superiority in action. On
many public occasions, and Aristodemus, a native of
an embassy to Philip, partly perhaps because the Macedonian
king was fond of his art, partly also, because Aristodemus
could assume on all public occasions as dignified a manner
as that which characterized Philip himself. [See Schlosser,
L. 2 Attic, i. 5 Attic.]

Anaxagoras entered into Athens the speculative phil-
osophy of the Ionian school, and he found a pupil and
supporter in the great Pericles, and in the poet Euripides.
From this period we may consider philosophy as in opposition
to the popular creed, since the speculations on things as well as the nature of man were entirely at variance with
those symbolic forms which constituted a chief part of the
spiritual form of philosophy, that is, the mythology of
the Greek race. Greece was divided into two branches, sprang the subtle dialectic which
established itself at Athens. Socrates himself was a master
in this science; his school, chiefly known through his dis-
ceptible Plato, requires a history by itself. [See SOCRATES,
PLATO.] The teaching of Plato belongs to the next
period. [See ARISTOTLE.]

In historical writing, Athenian literature has transmitted to us the history of the Pelopon-
nesian war by Thucydides, a work in which the dryness of the
period is entirely covered by the rich prose of the
author; and as the author generally puts into the mouths of his
speakers, Xenophon, a pupil of Socrates, has left us, in his Anabasis,
one of the most attractive military histories which ever was
written, a model of simplicity and good sense, in respect to
both the business of the campaign and the diction of
the Roman general in all that renders a narrative
interesting. Xenophon was also an historian, a philosopher,
and an economical writer (as the term was then understood),
but his fame must rest on his work of the Expulsion
of the young Cyrus, and perhaps on the philosophical
romance (the Cyropoeia) which has disguised the history of
the first Cyrus, the founder of the Persian monarchy.

Various modern writers have attempted to determine the
population of the few days of Athens also, and from such other considerations as appear applicable to
the question. Their results are very different, as might be expected in a case where even an approximation to truth is not attainable. We may always reason the distrust of the accuracy of abrupt statistics; and when to this is added the discrepancies of extant authorities, and the errors to which they have been exposed from transcription, we cannot place
any confidence at all in the results that have been deduced from this part of the work. The population of Athens also, included in the Athenian empire, was also mixed up with the population of the whole province
[see ATTICA,], and it is not easy to assign the proportions
which the capital and to the rest of the country.

Colonel Lenke (Topog. of Athens, p. 99) states the popu-
lation of Athens and the three miles of the republic to be:
he makes the citizens, 40,000; the
Muscici, or resident aliens, 15,000; the slaves, 53,000; and
 praises and others of Athenian race, not having rights of
citizenship, 10,000. We can hardly express a positive opinion as to the probability of 116,000 being above or below

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the truth: but various objections may be made to the reasons by which the details of this investigation are supported. Bowkett (Public Economy of Athens, ii. 66. Trans.) has estimated the greatest possible amount of the ground and the port.

But the fact of any weight on which this assumption rests, is the circumstance of the houses in Athens being above 10,000 in the time of Xenophon. The author, to give some additional degree of probability to this result, estimates the number of the houses which, added to the population of the city and port, makes a total of 200,000. He then assumes the area of the city and port, together with the mining district, at thirty-two square miles, which he thinks will not give too great a population. But it is only obscure the question. Bowkett estimates the circuit of the city and sea ports at 200 stadia, which is considerably above the truth (see Athenaeus, p. 11); but he says nothing of the size of the city or the port, which certainly was not above three square miles. We have thus twenty-nine square miles for the mining district, which may be above or below the truth: but as we do not know the dimensions of this district, except that it was reckoned sixty stadia in one direction, nothing positive can be said about it. Though Bowkett's arguments as to the population of the city are inconclusive, we cannot help thinking that the population which he assigns to it is more in harmony with all known facts.

The greater estimate of Colonel Leake. Mr. Ginn (Rusti Hellanici, p. 148) states (in a dispassionate manner) that 160,000 inhabitants to the city and port, and some of his arguments are liable to objection, and especially so far as they rest on his assertion of the space occupied being larger than it actually was, to the time of Demosthenes and of Agisius. This that could not be the case will be evident, if we compare, as Colonel Leake has not neglected to do, the form of the walls of Rome with those of Athens; the circuit of the two walls might be nearly equal, but the space included would be different.

The population of the city depended, to a considerable amount, on foreign corn, which was derived from Euboea, the north-east of the Black Sea, and also from other places. About the Black Sea, as well as the Oenotrian and the Sabacinian, as early as the 9th to 8th century B.C. (Herod. II. 147), and perhaps earlier. In the time of Demosthenes (strato agnato eptypes) the importation of corn into Attica was very large, and the regulations respecting this trade formed an important part of the public economy of the city. The political history of Athens, during and after the age of Alexander, is of little importance. The city was often involved in the revolutions and movements of the Macedonian kingdom, and on the whole it enjoyed internal tranquillity to the time of the Roman civil wars. Athens owed chiefly to the control exercised by the various rulers of Macedonia. Soon after the death of Alexander the Laman war broke out, in which the city showed almost the last vestiges of its formidable limits. Rome made a triumph over the armies of the east. The result of the campaign was the occupation of Macedonia by a Macedonian garrison (c. 321); and the death of Phocion, which took place soon after, left Athens without a representative of her ancient statesmen. [See Antipater, Leochares, and Lamiatic War.]

Alexander, having got possession of Athens (c. 317), appointed Demetrius of Phalerum, supported by a Macedonian garrison, governor of the city. During ten years Demetrius secured to Athens, if not her old power, at least peace: under him Philo the architect added a portico to the great temple at Eleusis, and built the large arsenal in the Phocian Demetrius was a mere rhetorician, and a philosopher; but he was the friend of the comic poets Diphilus and Menander, the ornaments of the new Athenian comedy. Under his administration the character of the Athenians sank still lower; and public morals, perhaps never in Athens, at least since the days of Pericles, became still worse. Demetrius the Phalerian was expelled (c. 307), and the forms of the constitution were preserved.

Demetrius Philoctetes was a soldier, a man of talent, and a lover of pleasure. During his second residence at Athens (c. 301), he received the honours which were due only to the gods; temples were erected to his mistress; and the ashes of the Virgin Goddess herself on the Acropolis escape, description from the unbridled licentiousness of this second Achaeus (Plutarch, Demetr. 93, 94). Antigonus Gonatas got possession of Athens for a short time (Pausan. 3, 5, 6).

During the wars between the last Philip of Macedon and the Romans, the Athenians, together with Attalus, king of Pergamus, took the part of the foreign invaders. Athens, though weak in the field, was still strong within her walls; the Macedonians attacked both the Piraeus and the city before the Romans could come to their assistance (c. c. 207; but failing in his object, he turned his vengeance against the suburbs, and the numerous beautiful temples which adorned the Attic plain. ‘Not content’ (Livy, xxi. 19) he destroyed temples and statues, and even the very marble of which they were built. There can be no doubt that the invasion of Philip was most destructive to the monuments of Attica, though Eleusis and Athens itself escaped. [See Philip.]

The next great calamity of Athens was its capture by the Romans under Sulla (s. c. 66). Athens had espoused the cause of Mithridates, and admitted his general, Archelaus, into the Piraeus. The city was taken by assault (Plut. Sulla, 14), and the Roman soldiers made the streets swim with Athenian blood. This was the first time that the fortifications of Athens had been forced by an enemy. Sulla demolished the walls of the Piraeus, together with the great arsenal of Philo, and from this time the commerce of Athens was considerably impaired. Under Roman government, Athens, though she had lost her political power and her commerce, was still the centre of the arts and of philosophy, and a favoured residence of the wealthy Romans. It was at this period that of Hadrian it was occasionally honoured by the visits of the masters of the Roman world, and to them it owed much of that splendour which Pausanias admired in the second century of our era. As a school of learning, it was frequented by the Romans who wished to perfect themselves in the language and philosophy of Greece. The poet Horace was a student here when the civil wars broke out after the assassination of Julius Caesar; and Cicero was one of his moral treatises to his son Marcus, who was then studying here under Crassippus. (See Offic. lib. i. cap. 1.)

No other city ever enjoyed her fortune in the prosperity which attended her so long after the loss of her political importance. Even the republic, so long attached to Rome, since the decline of her temporal power, is but a feeble representation of that enjoyed by Athens during five centuries, among all the nations into which Grecian civilization had penetrated. We cannot have a stronger proof of this fact than that the most remarkable buildings erected in Athens, after the decline of her naval power, were executed at the expense of private fortunes. (Leake's Topography of Athens, pref. p. xiv.) To compress within one chapter, the monuments of the epoch are indicated in the above extract; we shall arrange in chronological order those events which are worthy of record as denoting the influence or the interest of foreign powers in this city, which the world at one time regarded as the parent and nurse of arts and philosophy.

B. C. 275. Ptolemy Philadelphus, king of Egypt, built a gymnasion near the temple of Theseus, and gave his name to a new tribe at Athens.

B. C. 240. Attalus, king of Pergamus, had also the honour of giving his own name to a tribe, and ornamented the Notum, or B. E. wall of the Acropolis, with four compositions in statuary, one of which commemorated his own victory over the Gauls (Pausan. i. 23).

B. C. 167. Antinous Ephebus, assisted by the architect Conon, commenced the great temple of Jupiter Olympius, which was not finished till the time of Hadrian.

B. C. 149. Abgarraizis II, king of Cappadocia, repaired the Odeum, or Music Hall of Pergamus.

B. C. 142. Julius Caesar, in 52 B.C., dedicated to the erection of the Propylaeum of the New Agora, which still exists.

A. D. 117. 138. Hadrian, the imperial architect, was the greatest benefactor of Athens. He finished the great temple of Jupiter, adorned the city with numerous other works of art, and furnished a new quarter of the Hadrianopolis with water by an aqueduct. Antoninus and M. Aurelius continued to extend to Athens the munificence of their predecessors; and at the same time Hercules Atticus, a native of Marathon, erected the theatre which bore the name of his wife Melia, at the foot of the Acropolis.
and covered with the white marble of Pentelicus the seats in the Stadium of Lycurgus. To this epoch belongs the description of Athens by Pausanias, which applies to a time when the great works of the age of Pericles still showed all their original freshness and perfection, and the colossal structure of the Olympian had just received its completion.

Though Athens was pillaged by Sulla’s soldiers, and perhaps with the other cities of Greece may have been robbed of some of its pictures and statues by the Romans on subsequent occasions, there is no reason for supposing that it was at the close of the second, or even the third century, Athens had lost much of its unrivalled works of art. The gradual decay of its buildings has been attributed with good reason partly to vagabond paganism (as in P.75lf.) and to the slow though gradual progress of the new faith.

A.D. 844. The walls of the city were repaired under Valerian.

A.D. 937. The Goths entered Athens, but were repelled by Dexionis an Athenian.

A.D. 398. Alaric took Athens, but probably did not treat it with great severity.

A.D. 420. General abolition of paganism in Greece and Athens in the reign of the younger Theodosius. About that time probably also, the Parthenon, the temple of the Virgin-Goddess, was converted into a church dedicated to the Virgin-Mother, and the temple of Theseus was appropriated to the warrior Saint George.

A.D. 845. The city was again conquered by one of his followers by Boniface, marquis of Montferrat, who assumed the title of king of Thessalonica. It continued in the possession of the Christians, but with many changes, till it fell into the hands of the Turkish sultan, Mohammed II., in 1456.

A.D. 1669. The Venetians under Morenae, when they occupied Athens, in 1669, were in the Arcadian of the Venetians under Morenae, when they occupied Athens, in 1669, were in the Arcadian of the

Athens has suffered much since that time, the siege of Morenae did infinitely more damage to the Parthenon than it had sustained during the 2000 years of its existence. The explosion of some powder which had been placed in it by the Turks, reduced it from its then almost perfect state to a ruin.

Athens was declared by a royal ordinance of the present year (1834) to be the capital of the New Kingdom of Greece.

The king visited it in March and laid the foundation-stone of his future residence. During the excavations lately made for the purpose of erecting new buildings, several works of ancient art have been dug up, and we may confidently hope that the restoration of tranquillity to this city will be favourable to a more complete illustration of its topography and antiquities. A fine boulevard, said to belong to the frieze of the Parthenon, has been lately discovered by the way in which the Acropolis is to be excavated. Most of the existing buildings have suffered during the war of independence, but fortunately the temple of Theseus has escaped with very little damage. Among the names of the projected new streets, we find those of 1834 and 1835, on the other hand, the new towers, history, and antiquities of Attica, in addition to the articles and works already referred to, see Lehrbuch der Griechen by K. F. Hermann, 1831; Borch’s Public Economy of Athens, English translation; Clinton’s Flora Hemis, etc.

ATHENS, a town in the state of Georgia, U.S., on the Oconee, a tributary to the Ocmulgee; it is ninety-two miles W. W. of Augusta on the Savannah river. It contains the courthouse and church, otherwise called the University of Georgia, which was founded by an act of the legislature in 1785, 9, and established at Athens in 1802. Its original endowment was 30,000 acres of unappropriated land, which will produce sufficient income, when leased according to the provisions of the original law, was sold in 1816, by the trustees, who obtained permission to that effect. The proceeds of the sales were 100,000 dollars, which are vested in the State bank; the Legislature guaranteed to the university an annual income of 30,000 dollars, and this sum makes an additional annual grant of 6000 dollars. The income from tuition varies from 3500 to 4000 dollars.

The university buildings consist of two brick edifices of three stories, for the accommodation of students, containing respectively 3200 and 3600 feet in the first, second, and third floors. The college library contains 3500 volumes, and the students' libraries 3000. The institution possesses a philosophical and chemical apparatus, a cabinet of minerals of 3000 specimens, and a botanical garden. The board of trustees consists of twenty-eight laymen; the board of visitors of ten laymen and five clergymen. Since the opening of the institution in 1802 to the present time, there have been six different presidents, all of whom, as usual in the case of the U. S., have been clergymen, with the exception of the first. The faculty in 1833 consisted of five professors and teachers, including the president; the number of students in 1833 was ninety-seven. The vacations are about eight weeks in the year. The expense of tuition, board, and books is about twenty dollars, or somewhat above 80l. per annum.

Athens is in a fine healthy situation, in the upper country of Georgia, at the distance of about 200 miles from the sea.

The seat of the University of Ohio, which was founded in 1802, by the Territorial Legislature, and endowed by Congress with two townships, which is seventy-two square miles, or 46,000 acres; this act was confirmed in 1804, by the State Legislature, after Ohio had been raised to the rank of a separate state. The institution consists of a college, organized about 1821, which is a brick building of four stories, and an academy. The college has a philosophical apparatus, and a library of 1000 volumes; there are two students’ dormitories of above 200 volumes each. The rents of the college lands at present amount to about 3500 dollars.

The faculty in 1833 consisted of five professors and teachers, including the president, who is a clergyman. The number of students in 1833, in the college classes, was forty-five; in the academical, 140. The board of trustees under expense for the session of forty-two weeks is only ninety-eight dollars, or about 21l. sterling. (American Almanac for 1834 &c.)

ATHENS, a small post-town in the state of Ohio, U.S., on a high peninsula, formed by a bend of the Hocking river, a tributary to the Ohio. It is a city of the University of Ohio, which was founded in 1802, by the Territorial Legislature, and endowed by Congress with two townships, which is seventy-two square miles, or 46,000 acres; this act was confirmed in 1804, by the State Legislature, after Ohio had been raised to the rank of a separate state. The institution consists of a college, organized about 1821, which is a brick building of four stories, and an academy. The college has a philosophical apparatus, and a library of 1000 volumes; there are two students’ dormitories of above 200 volumes each. The rents of the college lands at present amount to about 3500 dollars.

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ATHERSTON, or Atherstone, a town in Atherston division, in the hundred of Hemlingford, in Warwickshire, close upon the border of Leicestershire, and on the road from London to Lichfield, 104 miles from London, and 16 from Lichfield.

This place, which owes its origin to the Saxons, stands on the great Roman Way, Watling Street. The manor was formerly held by William de Lusignan and Hugh Lupus, earl of Chester, and is called in Doomsday Book Aderstane. By Hugh Lupus the manor was bestowed on the monks of Bee in Normandy, who obtained by charter from Henry III. in 1246 and 1247 a yearly fair, to last three days, beginning on the eve of the Nativity of the Virgin Mary. The market is a market weekly on Tuesday. The market increased very much, from its convenient situation. Upon the securit of the lands of foreign religious houses in the reign of Henry IV., this manor was taken by the crown; and after having been successively granted to many individuals or religious houses, it passed to the family of the Reptonings, in which it long remained. King's College, Cambridge, to which it was granted by Henry VI., still receives 16l. yearly from it.

The seat of one of the most ancient and modest colleges in England, the college of St. John the Baptist, which is composed of thirty-two chappels, or chapels, and is the most ancient college in the university. The chapel is ancient, having been the nave of the church belonging to an Augustinian friary, founded by Lord Basset of Drayton in 1330. After the dissolution of the monasteries, the nave was granted to the inhabitants for a chapel of ease to the church at Atherstone. A south aisle of brick, added to this edifice, and a humble imitation of a modern Gothic tower, formed in 1802, the exterior of the college, the whole of which has been appropriated to the free school endowed by Sir William Verney and two other persons in 1573.

The chief manufacture of Atherstone is that of hats.
nian many inaccuracies, especially in the vocal points, and still more in the accents. David Codius asserts, in the preface to his own edition, that he observed six hundred omissions and corrections, of which he ventured to produce to his own edition of the Bible, that he corrected two thousand inaccuracies in the Bible of Athias. The edition of Athias was bitterly attacked by Samuel Marsius, in a letter published 1669. A reply to this letter was published the following title: "De Josephi Athiae juxta Dei veritatem, ab omni, et in omnium verbum, et omni error, ut in editione, bibliae, Joannis Athiae, aeditus est, corrigenda, et justificanda." D. Sam. Rorarius, &c. It has been supposed that Lessen, writing in the name of Athias, was the author of this reply, as it is well marked, that the copy of the second edition of the Bible of Athias differ from the rest. The cause of this difference was, that Athias had struck off five sheets of an edition of four thousand five hundred copies when he resolved to print five hundred copies more. The proviso of these supplemental sheets were not revised by Lessen, and consequently some copies contained slight variations in the first five sheets. Notwithstanding its defects, the Hebrew Bible of Athias had great merit, and has been the basis of all subsequent editions. The editions of Codius, Jablonski, Van der Hoogt, Opitz, Michaeis, Hahn, Houbigant, Simonis, Reineccius, Hurwitz, and others, may be considered as improvements upon that of Athias. The greater part of Athias was written by Syrians with Arabic cyphers, all former editions having only the Jewish method of notation.

The name Athias is also in Spanish, Jewish German (or that jargon mixed with Hebrew which is spoken in the Jewish colonies of the Holy Land) and in English. Of the English Bible he kept the types standing, and asserted that he printed and sold more than a million of copies; but this is scarcely credible, because the English Bible of Athias is rather scarce. The States General of Holland presented a gold chain and medal to Athias. (See Woitzi, Bibliotheca Hebraica, tom. i. p. 532—554; Le Long, Biblioth. Sac., part i. p. 116, &c.; Eielson, in das Alte Testament, von Richthorn. The prefaces to later editions of the Hebrew Bible are building on the foundations of Athias.)

ATHLONE, a borough in Ireland, of considerable importance from its situation on the river Shannon, and on the principal road which connects the metropolis with the western province of Connaught. It is about 12 miles from Dublin, nearly due west. The name Athlone is supposed to be a somewhat altered form of the Celtic Ath Lusin—Moon-Ford, or Ford of the Moon, the town being situated at a ford over the Shannon.

Athlone is in the barony of St. Peter and Killtem, in the barony of Athlone, in the county of Roscommon and province of Connaught; and St. Mary, in the barony of Brawney, in the county of Westmeath and province of Leinster. These parishes are separated from each other by the river Shannon, St. Peter and Killtem east of that river, and St. Mary east of it. The two parts of the town are united by a bridge of nine arches, built at the ford already noticed. This bridge is only twelve feet wide, and, in consequence of this narrowness of the passage, is a scene of great confusion in times when the occurrence of a fair or a market causes any increase in the ordinary traffic. Nearly in the centre of this bridge is a stone monument, erected in the reign of Queen Elizabeth, whose arms occupy one of the corners of the monument. There are besides this four other bridges in the parish of St. Peter, of which are over a canal, cut at the back of the town with the view of preserving the line of navigation of the Shannon, which had been interrupted by the ford and the bridges over the river.

The town is chiefly composed of strong stone houses, and has been long fortified. The walls and fortifications, which had been suffered to go to decay, have been strengthened within a few years. There are four gates, by which many guns of various calibres. The citadel or castle, which has been repaired in a more modern style of fortification, commands the bridge and the river. The town is very irregularly built, neither the straightness of the streets, nor the proportion of the height of the houses, nor the uniformity of fronts, having been attended to.

Athlone has no public buildings of any importance except the Seamen's house, where the quarter-sessions are held; and the new barracks, so close to the town as to be considered part of it. Here is accommodation for 2000 men;
and attached to it are magazines, armoury, ordnance yard, depot of military stores, and hospital. Before the magazines in the present barracks were built, the barracks and magazine were in the castle; but the magazine was blown up in 1697, having taken fire by lightning. Athole is one of the chief military stations and depots for arms in Ireland.

The site of worship of the Establishment, there is a large Romanesque chapel in St. Peter's parish, and a preaching-house in St. Mary's parish, supported by the Irish Baptist Society; in which last a free school also is taught. There is in the town a charter-school; also free schools. The mountains are bounded in the east by the Ochil, in the south by the Lomond and the Ochil, and in the west by the Grampian chain.

The manufacture of felt hats has long been carried on here, and the town has some celebrity for its felt. Friers are manufactured, and some linens are woven. There are two schools for girls, and Athole is well situated for trade, having the advantage of the Shannon, which is navigable thirty-eight miles farther up; and also of the Grand Canal, which communicates with Dublin, and joins the Shannon seventeen miles below Athole. There are three market days in the week, and the markets are well supplied with sea and river fish, vegetables, and fruit.

There are four fairs; two held in virtue of the charter of the corporation. These two appear to be held in the parish of St. Mary; the other two in that of St. Mary's. The town had a corporation created by James I., consisting of a sovereign, two bailiffs, twelve burgesses, and an unlimited number of freemen. The corporation can by their charter hold a court every three weeks for the recovery of small debts on its own petition, if the parties desire to have it. The corporation can decide summarily for any debt not exceeding five shillings. The corporation is also authorised to hold a court of pre-ponderance for administering justice in cases of injuries done during the fairs.

The borough sent two members to the Irish parliament; but, since the Union, it has returned only one.

Athole was rendered conspicuous in the Irish war which ensued upon the revolution of 1688. After the battle of the Boyne in 1690, the river Athole forms a line through which the troops of William of Orange passed into Scotland. Richard Grace, formerly chamberlain to that prince when Duke of York. While King William invested Limerick in person, he detached General Douglas to besiege Atholxne.

The eastern part of the town, called the English Town, was evacuated and burnt by Colonel Grace, who broke down some arches of the bridge and strengthened the western part (or Irish Town) of Athole with new works. Douglas summoned him to surrender; but Grace, firing a pistol at the messenger, gave the word to retreat. The English soldiers will give or receive; and after my provisions are consumed, I will defend the town till I eat my old boots. After battering the walls, the besieging army broke up and retired.

On the 21st of October, 1691, Athole was again attacked by General Ginkel; when the English troops, all in the English Town, determined to force the passage of the river by fording, and to storm the Irish Town. The garrison had been weakened by the flight (King James's commander-in-chief) of Colonel Grace to exchange the three tried regiments of foot, with which he had the year before defended the town, for three inferior ones in St. Ruth's army, and the attempt of Ginkel was successful with very trifling loss on the side of the assailants. The town was taken, the governor fell in the assault, and the army under St. Ruth, which was encamped in the neighbourhood, retreated to Aghrim, where it was in a few days entirely defeated by Ginkel, who received for his services in this war the title of Earl of Atholl, by the gallant

The population of the borough of Athole was, in 1821, 11,484; but the whole population of the three parishes of St. Peter, Kiltoom, and St. Mary, 19,681. Nearly all speak English and Irish; but the vernacular language seems to be on the decline. The inhabitants maintain many ancient customs. The parish of St. Mary is a rectory and vicarage in the diocese of Meath; that of Kiltoom a vicarage ecclesiastically united with the vicarage of Camna, both in the diocese of Ross. That of St. Peter is a perpetual curacy, also in the diocese of Ephin.

The river Shannon supplies a variety of fish. Pike, trout, bream, a few salmon in the season, perch, and eels, are taken; the latter in great abundance. Beas are sent in great quantities to Dublin.

ATHOLN, EARL OF. [See GINCKEL.]

ATHOL (i.e. pleasant land), a district in the northern part of Perthshire, in Scotland, formerly one of the hereditary jurisdictions into which many parts of Scotland were divided. It is bounded on the N. by Badenoch in Inverness-shire; on the N.W. and W. by Lochaber also in that county; on the S. by Breadalbane and Strathmore in Perthshire; on the E. by Forfarshire; and on the N.E. by Mar in Aberdeenshire. Its precise limits are not known, and its dimensions are considerable. In the Appendix to Sir John Sinclair's General Report, xiv., of Scotland, it is estimated at 450 square miles. The face of the country is very mountainous, and contains a part of the great Grampian chain; some of the peaks are the West Ben, with its famous bennean, three peaks, and Scarsoch, between Athol and Badenoch, 3390. The mountains are intersected by narrow gleses, watered by rapid rivulets. These, by their junction, form two rivers: the rivers Eden, Bruar, and Tilt, which fall through inlets in which their names occur, into the river Garry. This, in turn, becomes a tributary of the Tummel, which flows along the south part of the district into the Tay. The whole district of Athol is included in the basin of the last-named river (the principal in Scotland), for the Airlie water, which carries off the streams of the eastern parts, falls into the Erich, this into the Isla, and this again into the Tay. The chief lochs are Loch Rannoch, about nine miles long and one mile broad, and surrounded by mountains; Loch Tummel, on the boundary between Perth and Inverness-shires, about fourteen miles long, and, on an average, three-fourths of a mile broad, in the heart of a mountainous, bleak, and almost uninhabited country. In a great many parts of this district there are mountains which, after the battle of Culloden, Loch Lydoch, which is on the borders of Argyleshire and Perthshire, can scarcely be considered as belonging to Athol: it is about twelve miles long and of varying breadth. Loch Tummel and Loch Garry are about the same length as the latter, and Loch Inde, and the Tay. Loch Garry is near the source of the river of the same name.

The hills were formerly clothed with timber of various kinds, but the quantity of this is much reduced, and wood is now found only in the most sheltered places. It was formerly one of the best hunting districts in Scotland; but with the diminution of the native forests, the herds of deer have diminished also. The hills are now, in a great degree, devoted to the raising of sheep and cattle. However, a good number of red deer still remain, especially in the neighbourhood of the duke of Atholl's domains about Blair Atholl, where the Forest of Atholl, containing about 100,000 English acres, is set apart for them, and they are left free to roam over the whole country, when any parties are permitted to engage in deer-stalking. Fallow deer, in a state approaching to that of nature, are found on the south side of the range of bleak and commonly naked hills which separate Badenoch from Atholl. They are rarely seen on the summits, but generally in the gles of Tilt and Bruar.

In the gles by the side of the streams, strips of arable land are cultivated, and made to produce good crops of barley, oats, and potatoes. This district gives the title of Duke to a branch of the family of Murray; a name, however, little diffused in the district, where those of Stewart, Robertson, and Ferguson, are much more generally found.

In Atholl is the Pass of Killycrankie, celebrated for its picturesque beauty and for the victory and death of Graham of Claverhouse, Viscount Dundee, who fell in maintaining the cause of the house of Stuart, on the 17th July, 1692. Glen Tilt, along which a principal branch of the river Tay pursues its course for about ten miles above Blair Atholl, is to the geologist, classic ground; the observations which Dr. Hutton first made on the granitic veins exposed in that valley and on the composition and character of the rocks is now drawn up nearly at the same time and may be seen in the Transactions of the Royal Society of Edinburgh.
ATHOS, a mountain at the extremity of the long peninsula which projects from Chalidice, and separates the Gulf of Contium and Monte Santo, on the coast of Macedonia. The name Athos was properly applied to the whole mountainous peninsula, which is joined to the mainland by the low flat isthmus near the site of Aenos (Herd. vi. 22.) It is now known to the Franks by the name of Monte Santo, and to the Greeks as Ayion-oros, both implying 'holy mountain.' This appellation it has obtained from the number of monasteries, convents, chapels, and other sacred spots scattered round its sides. Some of the monasteries, of which there are twenty-six, are enclosed by high, curtailed walls, having rather the appearance of fortified towns than the abode of men devoted to the peaceful exercise of religion, and are provided with the means of defence and offence in several pieces of ordnance with which they are armed. Amongst the largest are, Xenophon, Iveron, Vatopedi, Panta-katara, Ayia Laura, St. Anne, and St. Paul. The number of monks alone in these establishments is supposed to exceed 8000, exclusive of lay brethren, artificers, and labourers. Ayia Laura contains upwards of 600 monks, and is subject to a very singular regulation, which some travellers have erroneously stated to be general throughout the peninsula; we refer to the prohibition of any female, even of the animal kind, being admitted within its walls. Herodotus (vi. 22) enumerates five towns within the peninsula of Athos.

The antiquity of these foundations is traced to the reign of Constantine; and authentic documents are still extant proving their existence in the time of Nicephorus Phocas, a.d. 961. The oath required from the monks is solemn and simple: to renounce for ever the world and its cares, considering themselves dead to all sublunary concerns, and to devote themselves to meditation, celibacy, retirement, and poverty. Though individually poor, there can be little doubt that the fraternities are by no means so; but it is their interest to conceal their riches, in order to avert the grasping avarice of the Porte. The principal stream of wealth flows from the spiritual source of religion, and consists in the oblations of pilgrims, who, in their peregrination to the chapel that crowns the sharp summit of the mountain, are expected to visit and contribute to each monastery on the tortuous road; yet the monks have not forgotten the temporal source of wealth from commerce, which is carried on chiefly with Salonica and Smyrna. This trade consists almost exclusively of fruits, of which the various species of nuts form the chief portion. The gardens of the monasteries, which are very extensive, produce both fruits and vegetables of all kinds, and are kept in the highest order, as well as the farms, called metoche, attached to the several monasteries: these are scattered over all the most fertile spots of the peninsula.

The Russians, Bulgarians, and Servians have each their respective monasteries; and caravans of from two to five hundred pilgrims arrive periodically from those countries, consuming every thing in the villages on their road. A visit to this sacred spot is of the same importance to the members of the Greek church as a pilgrimage to Mecca with Mohammedans. The chapel on the summit is, however, only reached by the more seafaring; the road is extremely difficult, requiring the use of both hands and feet to accomplish the ascent. None of the monks reside permanently in this chapel.

On the sides of the mountain are vast forests of pines, oaks, and chestnuts; the pines grow to an immense size. The appearance of the mountain is very magnificent, standing in lonely majesty at the termination of ridges of considerable elevation, and rising abruptly from the sea to a height of 6349 feet. The shores at its base are so steep that there is no anchorage for vessels, the small craft that trade here being obliged to keep constantly under sail while taking in their cargoes - within a quarter of a mile of the coast there are from 80 to 100 fathoms water. The dangers of the shores of Athos were experienced by the Persian fleet under Maronius (Herd. vi. 44), which was completely destroyed by a storm on this coast.

Although the monks themselves are shamefully ignorant, yet their monasteries possess libraries among which there
ATHY, a town in the county of Kildare in Ireland, about thirty miles S.W. of Dublin. It is on both banks of the river Barrow, which, flowing southwards, unites with the Suir below Waterford, and, forming the harbour of that city, flows into the sea. The Grand Canal from Dublin terminates here. The Barrow is navigable from hence to the sea, and the communication between Waterford and Dublin. Large quantities of corn are sold here weekly, and sent to Dublin.

Athy is situated in a pleasant country, better suited to agriculture than pasturage, and is close to an ancient ford, which early Irish history mentions as having been the scene of contests in domestic wars. Two monasteries erected on different sides of the river gave origin to the town. That on the west side was founded by Richard de St. Michael, lord of Rheeves, in the early part of the thirteenth century, under the invocation of St. Mathew, patron of canonries for crocheters, friars: and that on the east side was founded in 1253, for Dominicans, by the families of Bessell and Hogan. There are some few remains of both these edifices. Gerald, earl of Kildare, about 1506, at the foot of the bridge over the Barrow at Athy, that might serve to enlarge the English pale. This castle was repaired and enlarged by one William White, about 1575 and obtained from him the name of White's Castle. One tower still remains.

Athy was incorporated by charter of James I, and is governed by a recorder, sovereign, town-clerk, and two bailiffs. It sent two members to the Irish parliament, and was under the influence of the duke of Leinster. It is now alternately with Naas, the county-town for a constituency of Kildare; and the remaining tower of the castle already noticed is used as a prison and is an appendage to the county gaol of Naas. The population, in 1831, was 4494. There is a parish school for about ninety children (boys and girls), supported partly by subscription, partly by the Place Society; and a catholic free school, in which about twenty children of both sexes are instructed, is supported by subscription.

Athy is in three parishes, Reban or Churientown, St. Michael, and St. John (the last being a chapel), which, with others, form an ecclesiastical union in the diocese of Dublin and Glendalough, and in the ecclesiastical province of Dublin. The church, which is in the parish of St. Michael, was built about 1740, and is in good repair. The population of the whole union in 1831 was 5352.

The county court-house was erected some time after the church, and the barracks about thirty years afterwards. There are six fairs in the year.

Athy was burned by the Irish in 1308, and in 1315 plundered by the Scots under Robert Bruce.

ATKYNs, SIR ROBERT, a judge of the Court of Common Pleas during the reign of Charles II., and Lord Chief Baron after the revolution, was an eminent and approved lawyer. His distinguished character as a judge gave him a high standing among the bench and bar of the country; and his soundness of judgment was highly esteemed. He was one of the most zealous advocates for the popular courts of law and the independent independence of the judge in the prosecution of the duties of his profession. He was a munificent supporter of the administration of justice, and of the rights of the people in the government of their country. He was a man of great learning and ability, and was one of the most distinguished lawyers of his time. He was a man of great learning and ability, and was one of the most distinguished lawyers of his time. He was a man of great learning and ability, and was one of the most distinguished lawyers of his time. He was a man of great learning and ability, and was one of the most distinguished lawyers of his time. He was a man of great learning and ability, and was one of the most distinguished lawyers of his time.
ence, is uncertain; but in his evidence before a committee of the House of Commons previously to the impeachment of Sir William Serjeant, he charges the chief justice with having exercised the power of capital punishment without due process of law. In his cross-examination he had used in favour of the right of petitioning. (Commons’ Journals, Dec. 23, 1689.)

A circumstance occurred in the year 1682, which eventually induced Sir Robert Atkyns to resign his office of Recorder of Bristol, and to retire from the management of the corporation, and a contested election of members for the city to serve in the Oxford parliament, on which occasion Sir Robert Atkyns was an unsuccessful candidate in opposition to the interest of the corporation; he stood out, not to inflame the violence of party spirit. It happened shortly afterwards that he was present and voted at the election of an alderman, when his popularity, with the rest of the corporation, preferred an indictment for a riot, at the quarter sessions, against Sir Robert Atkyns and two others who were present at the election. The case having been moved to the King’s Bench, was tried at the Bristol summer assizes, in 1682, and the defendants were found guilty; upon which, Sir Robert Atkyns in the ensuing term peregrinated about the Court, and incurred the displeasure of the judges. His argument on this occasion, which is fully reported in the third volume of Modern Reports, p. 4, was temperate, forcible, and effective, and the Court of King’s Bench appeared on a technical point to acquit him; but Atkyns, by the advice of Chief Justice Pemberton, and his brother Sir Edward Atkyns, then one of the barons of the Exchequer, immediately resigned his recordership; which, in fact, was the only object of the prosecution.

On leaving the bench in the early part of the year 1680, Sir Robert Atkyns withdrew from all public occupation to his seat in Gloucestershire, where he lived for some years in great seclusion, ‘keeping no correspondence,’ as he himself expressed it, ‘and indulging in no degree with politics. It is clear, however, from his writings, that during his retirement he viewed with deep interest the political transactions of the time; and he cannot be supposed to have been indifferent to the desperate course which the government were pursuing.

In 1683, when the memorable trial of Lord William Russell took place, some friends and relations of that unfortunate gentleman applied to Sir Robert Atkyns for his advice and direction respecting the management of his defence. With reluctance he readily complied, and furnished the accused with a detailed note of such points of law and fact as he judged might be of importance and interest to him upon his trial. After the revolution he published connectedly two pamphlets, entitled A Defence of Lord Russell’s Inocency, in which he argues against the sufficiency of the indictment and the evidence, and justifies the reversal of the attainer, with great force of language and solidity of reasoning. His letter of advice respecting Lord Russell’s defence, together with a letter containing a criticism on the proceedings of the trial, and likewise his two pamphlets on the same subject, are published amongst his Parliamentary and Political Tracts. In the year 1689 he published a tract, entitled The Power, Jurisdiction, and Privilege of Parliament, and the Antiquity of the House of Commons, asserted. The occasion of this tract was the prosecution of Sir William Bylliams by the attorney-general, for having, as speaker of the House of Commons, and by express order of the House, directed Dangelin’s Narrative to be printed. The object of Atkyns’s argument, which displays much research and great legal and historical learning, was to show that this was entirely a question of parliamentary jurisdiction, of which the Court of King’s Bench ought not to take cognizance. By this means, Mr. Howell heard Sir William Atkyns a case in the thirteenth volume of the State Trials, p. 139, that the case was originally argued for the defendant by Sir Robert Atkyns, who, being unsuccessful in conducting it, as one which concerned every commoner in England, although he had so entirely retired from the profession that he was obliged to borrow a gown to appear in court. In the year 1692 this narrative was founded upon a mistake, Pollen and Jones being the attorneys, and an affidavit in contemporary reports, and Sir Robert Atkyns not being alluded to as having taken any part in the proceedings. He may, however, have prepared the argument for the occasion, which he did not deliver it in our afterwards published work. Sir Robert Atkyns was returned to the only parliament called by James II., as representative of the county of Gloucester; but he does not appear to have taken any part in the debates. In the reign of James II., he was connected with the minister of the church, or which was the king’s power to dispense with penal statutes, and which was suggested by the well-known case of Sir Edward Hale. In this treatise, he considers at large the doctrine of the king’s dispensing power. It is clearly and candidly written, and the truth of the reasoning against the royal prerogative contended for by the judges in Hale’s case will hardly be denied at the present day.

The precise part performed by Sir Robert Atkyns in promoting the revolution, no one can be ascertained; but his known political opinions, his intimate connexion with the principal actors in that event, and the marks of distinction bestowed upon him by the new government, render it highly probable that he was not a passive spectator of the change. In the month of April, 1690, he was appointed chief baron of the Exchequer, Sir John Hous being at the same time made chief justice of the King’s Bench, and Sir Henry Pollesen chief justice of the Common Pleas. In the latter part of the same year, he was chosen speaker of the House of Lords, and continued to hold that office until the grand seal was given to Lord Somers in 1693. During the long vacation in the following year, Sir Robert Atkyns, being then seventy-four years of age, signified his intention of finally retiring from public life; attempts were made by the government to induce him to continue on the bench, in consequence of some difficulty respecting his successor; but he adhered to his determination, and retired to his seat at Napaton Hall, near Cirencester, in Gloucestershire, where he spent the remainder of his life. He died early in the year 1709, at the advanced age of eighty-eight years. In 1734 his published writings were collected into one volume, under the title of Parliamentary and Political Tracts. Early in life he married Anne, daughter of Sir Thomas Dacres of Cheshunt, in Hertfordshire, by whom he had a son, Robert, who was knighted upon a visit of Charles II. to Bristol soon after the Restoration, and who was the author of the History of Gloucestershire.

ATLANTA (in Zoology), a genus of the heteropous mollusca of Lamarck, which Cuvier places next to carnivora. The animal is very small, and the shell very delicate. Lamaron thought that he had discovered, in one of these shells, the original of the fossil ammonites, or cornua Ammonis, which, however, must have belonged to the class of gastropodous mollusca, or cuttle-like animals. Atlanta inhabits the Indian seas. [See Heteropoda.]

Lesueur describes another marine genus, Atlas, which must not be confounded with the above. Atlas has no shell; and Cuvier confesses his inability to class it. 'So confused, says he, is its situation, that it belongs to the same family as Gasteropoda, and places it accordingly under Acrocerata, though he confesses that it is not entirely known.

The former of these genera, so called by the Greeks probably, from the well-known tale of Atlas supporting the heavens. This is a term applied to figures or half figures of men used in the place of columns or pilasters, to sustain an entablature: they are called also Talamones, a word of doubtful etymology, the one term of Jupiter, Olympus, or Agrigentum, restored by Mr. Cook, and described in

[Image: Atlanta Peronici.]

a Natural size.
the fourth volume of Stuart's *Athens*. Atlantes are represented standing upon a plinth placed on the entablatures above the pilasters of the cela of the temple, and supporting with their heads and arms the entablature on which the beams of the roof were to have been placed. The Atlantes of this temple, in form therefore, are built in courses of stone, corresponding with the walls of the cela, and partly attached to it. The annexed cut, showing

[From Temple of Jupiter at Agrigentum.]

the front elevation of the figures, with a profile of one of them, has been engraved with the permission of the publishers of Stuart's *Athens*. (For a more detailed account of these figures, see vol. iv. cap. i. of Stuart's *Athens*, published by Weale, Holborn.)

In the Tepidarium of the baths at Pompeii, Atlantes of baked clay, in high relief, and incrusted with the finest marble stucco, painted to represent life, are ranged at equal distances round the room, to support an entablature from which the arched ceiling springs; in the intervals between the figures, niches are formed for the dress of the bathers. The figures are about two feet high, and stand, like those at Agrigentum, on a plinth. In the annexed cut, from

[From Pompeii.]

the society's work on Pompeii, a representation of these figures is given.

In the architecture of the modern Italians, the Atlantes are often found supporting the entablature over an entrance to a palace or a garden. At Milan, there is a colossal example of the former; and the rustic gate to the Farnese Gardens at Rome, the design of Vignola, may be adduced as an example of the latter.

**ATLANTIC OCEAN** is the name given to that part of the ocean which separates the old from the new world; it washes the eastern shores of the Americas, and the western shores of Europe and Africa. Nature not having fixed any boundary between it and those seas which are adjacent to and communicate with it, we shall suppose that it is divided from the Pacific Ocean by a straight line drawn from Cape Horn, the southern extremity of America, to the antarctic pole, and from the Indian Sea by another drawn from the Cape of Good Hope to the same pole. On the north we may say that its boundaries are fixed by nature, in that continuous and imperious barrier of ice which extends between 80° and 82° N. lat. from the coast of Greenland to the island of Nova Zembla. By fixing these boundaries, a part of the Northern Polar or Icy Sea, as well as of the

Antarctic Ocean, is included in the Atlantic, but the contiguous parts cannot well be separated in a description of the Atlantic.

Though the Atlantic Ocean extends from pole to pole, its breadth is comparatively not great. The two continents which lie farthest apart are America and Europe, between 69° and 71° N. lat., where the coasts of Greenland are only 800 geographical miles from those of Norway, a distance hardly greater than that between Nantes in France and Cape Wrath in Scotland. Between Cape St. Roque in Brazil, about 25° S. lat., and the coast of Sierra Leone in Africa, between 5° and 8° N. lat., the continents are not above 1500 geographical miles from one another, or about as far as the North Cape from the Noire. These are the two parts where the width of the Atlantic is greatest. Its greatest breadth is under 30° N. lat., where the peninsula of Florida and the western coast of Marocco in Africa are separated by upwards of 3600 geographical miles, or 60° of latitude.

Humboldt compares the form of the Atlantic Ocean to that of a longitudinal valley, whose projecting and retiring angles correspond to one another. He supposes it to be formed by a very violent rush of the waters from the south, which being repulsed by the mountains along the coast of Brazil, took a direction towards the coast of Africa, and formed the Gulf of Guinea; here being stopped by the high coast of Upper Guinea, and obliged to run again to the west, the stream gave origin to the Caribbean Sea and the Gulf of Mexico, and ran between the mountains of western Europe and those of North America, until it gradually diminished in velocity and force, and at length subsided. In confirmation of this hypothesis, he observes, that the primitive mountains in the Brazilian provinces of Rio, Minas Geraes, Bahia, and Pernambuco are under the same degree of latitude as those of Congo, and that the immense plain along the banks of the Amazon river corresponds to that traversed by the Quorra; further, that the mountains of Parima in America lie opposite to those of Upper Guinea, and that the great plains, which before this catastrophe, according to his hypothesis, extended to the south of the present mouth of the Mississippi, and by the submergence of which the Caribbean Sea and the Gulf of Mexico were formed, are under the same parallel as the great desert of the Sahara.

The South Atlantic Ocean does not offer any other peculiarity in its formation, but the Northern is distinguished by several.

First, we may observe the formation of its islands lying within the polar circle. They are countries of considerable extent, but divided by extremely narrow, long, and winding straits, of very difficult navigation, which is increased by the ice being only for a few weeks in the year free from ice. For instance, the group of Nova Zembla consists of at least two larger ones; that of Spitzbergen of three larger and many smaller ones; and it is rather more than probable that the suppositional Arctic Sea, so well known by the name of Greenland is composed of a number of large islands, divided from one another by narrow, long, and winding straits. This peculiarity in the formation is repeated, though on a less scale, in the islands which skirt the coasts of Norway, where, in some instances, the straits which once divided them from the continent have been filled up by earthy matter, and now resemble exactly Glen More in Scotland. In no other part of the seas has such a distinction of the island been observed, except in those on the S.W. coast of America, and probably those on the N.W., about the latitude of Admiralty Island.

But a still more remarkable and more important feature of the North Atlantic, is its connexion with mediterranean, or close, seas of great extent. Such are the Baltic Sea and the Mediterranean Sea in the Old Continent, and Hudson's Bay and the Gulf of Mexico, with the Caribbean Sea, in the New World. These seas doubtless form part of the Atlantic Ocean; but they cannot be considered as forming an ocean on their own, the connexion between them and the Atlantic being effected by narrow straits, and not by an open sea; and, besides, they extend so far into the continents, that some of them, as the Mediterranean Sea, affords by itself a navigable space of 300° and 310° geographical miles, as it were, to the Gulf of Mexico, in the Indian Ocean, where the Gulf of Persia and of Arabia resemble rather the Mediterranean and the Baltic Seas, than the Gulf of Bengal or that of Guinea; but they are of much less extent. This peculiarity in its form brings
the Atlantic Ocean and its appendages into immediate connec-
tion with a much greater extent of country than the other
seas that wash both continents. We accordingly find that
the continental shores of the Atlantic exceed in extent
those of the Pacific Ocean and the Indian Sea, the two
other great divisions of the Ocean, to the north, south, east,
and west; though the last three times the surface of the
former.

The continental coasts of Europe from the strait of Wai-
gatz to that of Caffa (the entrance of the sea of Azoff),
are about 17,000 geographical miles; those of Asia along the
Black Sea, the Caspian Sea, the Caspian Gulf, and the Medi-
terranean Sea, are nearly 3000 miles; and the coasts of Africa,
along the Mediterranean Sea, are upwards of 2000 geographical
miles. Add to these the western shores of Africa from the
strait of Gibraltar to the Cape of Good Hope, which com-
pound a line of coast about three-fourths the whole length of
the shores of the Atlantic Ocean amount to 28,000 geographical
miles. In computing its western shores, we shall consider
Greenland as a part of the continent, though it probably is
not strictly true; and on this supposition we find that the
eastern shores of America comprehend about 20,000 geo-
 graphical miles. Consequently the shores of the Atlantic Ocean
have a circuit of about 48,000 geographical miles. The coasts
of Asia are upwards of 30,000 geographical miles; but nearly
9000 of them belong to the coast of the Caspian Sea and
northern shores of the Atlantic Ocean. The eastern coast of
Africa may be computed at 6000 geographical miles, and the
western coast of America at 11,000. Thus the coasts of the
Pacific Ocean and those of the Indian Sea taken together, add
nothing to the total circuit of the shores of the Atlantic Ocean:
they are but 12,000 geographical miles, or nearly 4000 miles less
than those of the Atlantic Ocean. We shall observe, that in this
calculation the northern shores of Asia along the Polar Sea are
included, and as they amount to upwards of 2000 geographi-
cal miles, it would not comprehend everything within the ide-
ality of the Atlantic Ocean, if this length is substracted. We shall
not enlarge on the advantages which such a peculiar form of
the Atlantic must offer for the progress of civilization.

The Atlantic is divided into three principal parts, which extend
into the interior of both continents, if the number and magnitude
of the rivers which flow into the Atlantic were proportionate
to the extent of its shores. On the eastern side, the surface,
whose drainage falls into the Atlantic, is comparatively limited,
and does not comprehend even a part of the whole of Europe :
the greatest river of this part of the world, the Volga,
carries its waters to the Caspian Sea. No European river
of the first or second class flows immediately into the Atlantic
Ocean; the largest being probably the Rhine, whose course
descends from Lake Constance, 720 miles, to the North Sea,
and the Danube, 1800 miles, to the Black Sea, and the
second class, the Nile, the Danube, and the Dnieper, enter
the Mediterranean Sea or its branches. The boundary line,
which marks the region from which the waters run into
the Atlantic Ocean on the east, is extremely irregular. On
this side, where the Uralian Mountains and the steppes
of Russia are in contact with the Uralian Mountains and
the steppes of Siberia, where the rivers that flow into the
Caspian Sea, and the rivers of the great Siberian chain of
mountains, enter the Caspian Sea, the drainage is pro-
gressing to the Caspian Sea. In the Mediterranean Sea,
which contains an average distance of less than a hundred
miles, and turns round to the Isthmus of Suez. In Europe it
embraces the valley of the Nile, the upper part of which is of
unknown extent. The whole of this river, which flows from
the Nile runs due west, following generally the thir-
tieth parallel till it arrives at the shores of the Atlantic,
except the Canary Islands. To the south of the thirtieth
parallel, the drainage of the Atlantic Ocean falls in with its
shores; the great African desert not being

included in it. What parts of Africa south of the Sahara
belong to the basin of the Atlantic Ocean, our present
graphic knowledge does not enable us to decide with
accuracy. Perhaps we shall not much overrate it, in sup-
posing that the drainage of half of its surface flows to the
Atlantic. We therefore may suppose that the basin of the
Atlantic contains about three millions of square miles in
Europe, not half a million in Asia, and about six millions
in Africa; which all taken together do not amount to more
than nine millions and a half, or about one-fourth of the
continent of America. But the new continent be-
goed almost entirely to its basin.

In South America, the water-shed between the Pacific
and Atlantic Oceans runs at a distance of from 25 to 20
miles from the shores of the former, except in the very
north of the coast of the Atlantic, where the vast and
extensive plains which cover the greatest part of the surface
of that continent send their waters to the Atlantic Ocean.
Probably not less than six millions of square miles of the
surface of South America belong to the basin of the Atlan-
tic, and only half a million to that of the Pacific Ocean.
In North America, the line which separates the waters falling
into both oceans lies at a much greater distance from the
shores of the Pacific Ocean; but even here the great plains
of the interior of the continent have not the same influ-
ence upon the waters of the Atlantic Ocean as upon the
waters of the Pacific Ocean.

The Atlantic Ocean being, in the present state of the
commercial and navigation, the most frequented road of
communication, has been examined more completely than
the other seas, with respect to its facilities for navigation. The
dangers and difficulties produced by numerous and intricate
routes of islands are of less frequent occurrence in this sea
than in any other. There are not at present the same
islands which separate the Gulf of Mexico and the Caribbean Sea
from the Atlantic, and which therefore are to be considered
as forming part of the shores of the ocean, it can hardly
be said to contain any group of islands between 50° N. lat. and
the equator, as the Celebes Islands, the Moluccas, the
Bermudas, and the Canaries, and the small islands of the
west end of America. The Canaries, included in Madeira, are
much resorted to by vessels, from their situation on the verge of the
regions in which the seas and winds are subject to continual
change, and not exposed to the violence of the storms which
occur in the regions nearer to the poles.

With respect to the winds, the whole surface of the
Atlantic Ocean may be divided into three regions, in one
of which the winds maintain a constant course from east to
west, and have obtained the name of trade-winds. This
region extends to about 60° of south, the eastern side of the
Canary Islands. The other two regions, to the north and south
of the thirtieth parallel in both hemispheres, are subject to a
continual change of the winds, and are therefore called the
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of Africa to those of America. It sometimes occupies not
much more than two, and at other times not up to ten degrees
of latitude. It is a remarkable circumstance that it does not
extend equally on both sides of the equator, but is rather
southern than northern. The reason for this is that the sun
is generally more southerly, and as it proceeds farther to the
west its direction becomes more southerly, the difference
twenty degrees west of Greenwich may be considered as
a line of separation between the winds which blow from
the south and those from the east. To the east of that line
the direction of the winds varies between S.W. and S.S.E.
and to the west of that line between S.E. and E.S.E.
The trade-wind blow do not begin to blow on the coast of
continents, but only at a considerable distance from them.
This is to be attributed to the different degrees of elevation
of the land and of the sea, where the wind over the land is ex-
tensive, must be broken up and produce a great change
from the sea. Thus, between the northern trade-wind and
the African coast, and between the Cape and the S. Africa
Islands, and more especially, between Cape Point and the
mouth of the Senegal, the wind blows constantly from the
west. This phenomenon is to be accounted for by the nature
of the great desert called the Sahara, whose surface, com-
posed of loose sand, is heated by the sun to an excessive
degree, and, rarely the superheated air, causes it to rise.
When this rarefied and hot air comes in contact with the
more dense strata of air covering the sea, the latter
expands over the deserts, and in this manner the west wind
along this coast is produced.

But this influence of the Sahara does not extend beyond
the coast of Cape Verde. Farther to the south, as far as
the coast of Mozambique, or more properly between 15° S.
and 30° S., the wind is in a different direction. It is, to the east of the coast of Calabar, a kind of monsoon prevails, blowing in the month of June and July, from the north-east or north
north-east to south-west, and this monsoon blows commonly with considerable force, and extends to a great distance from the shore, especially when the month of June and July, when it is in its height, at which time it sometimes is very near as far as the middle of the
Atlantic Ocean. To the north of the equator the trade
winds do not undergo any change along the coasts of
America. This is probably to attribute to the lowness of
the coast of Guiana, and that is extended and frequently
inundated during the lower course of the Orinoco. It
has been observed that in this latitude these trade-winds
extend so far over the land, that the current is felt at
Angostura, 240 miles from the mouth of that river.

These are the winds which blow on both sides of the
equator to the thirteenth degree of lat., in the region of the
atmospheric winds. To the north and south of this region
the winds are variable; but it is observed that westerly
prevails in both hemispheres; and, according to the computa-
tion of M. Berthelot, the proportion between those winds
from the west to those from the east, is as 9 to 1 in the
northern hemisphere. Besides being variable in direction,
they vary likewise extremely in the degree of force
with which they blow.

To these general observations we shall add a few others, with respect to the difference between the northern
and southern trade-wind. The direction of the trade-wind declines only from north-east to east, in its progressive westward, but it
is perturbed towards its southern bound by the ante-
monic pole. Between the south and north, or rather the thirteenth and thirty degrees of north latitude the wind is sometimes violent north-western winds. For that reason, ves-
Sels bound for the Indies or South America sail along the old continent till they attain the twenty-first
degree, when they turn to the west.
The southern trade-wind is more regular, and always
preserves its direction, and is less boisterous towards
its southern bounds. It extends, as we have already
observed, as we sometimes find in the sixteenth degree of north
latitude. In Africa, it blows from the
south-west; but at a distance from the coast it becomes more southerly, and as it proceeds farther to the
west its direction becomes more southerly. The difference
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observed, as we sometimes find in the sixteenth degree of north
latitude. In Africa, it blows from the
south-west; but at a distance from the coast it becomes more southerly, and as it proceeds farther to the
west its direction becomes more southerly. The difference
twenty degrees west of Greenwich may be considered as
a line of separation between the winds which blow from
the south and those from the east. To the east of that line
the direction of the winds varies between S.W. and S.S.E.,
and to the west of that line between S.E. and E.S.E.
The trade-winds do not begin to blow on the coast of
continents, but only at a considerable distance from them.
This is to be attributed to the different degrees of elevation
of the land and of the sea, where the wind over the land is ex-
tensive, must be broken up and produce a great change
from the sea. Thus, between the northern trade-wind and
the African coast, and between the Cape and the S. Africa
Islands, or, more exactly, between Cape Point and the
mouth of the Senegal, the wind blows constantly from the
west. This phenomenon is to be accounted for by the nature
of the great desert called the Sahara, whose surface, com-
posed of loose sand, is heated by the sun to an excessive
degree, and, rarely the superheated air, causes it to rise.
When this rarefied and hot air comes in contact with the
more dense strata of air covering the sea, the latter
expands over the deserts, and in this manner the west wind
along this coast is produced.

But this influence of the Sahara does not extend beyond
the coast of Cape Verde. Farther to the south, as far as
the coast of Mozambique, or more properly between 15° S.
and 30° S., the wind is in a different direction. It is, to the east of the coast of Calabar, a kind of monsoon prevails, blowing in the month of June and July, from the north-east or north
north-east to south-west, and this monsoon blows commonly with considerable force, and extends to a great distance from the shore, especially when the month of June and July, when it is in its height, at which time it sometimes is very near as far as the middle of the
Atlantic Ocean. To the north of the equator the trade
winds do not undergo any change along the coasts of
America. This is probably to attribute to the lowness of
the coast of Guiana, and that is extended and frequently
inundated during the lower course of the Orinoco. It
has been observed that in this latitude these trade-winds
extend so far over the land, that the current is felt at Angostura, 240 miles from the mouth of that river.

These are the winds which blow on both sides of the
equator to the thirteenth degree of lat., in the region of the
atmospheric winds. To the north and south of this region
the winds are variable; but it is observed that westerly
prevails in both hemispheres; and, according to the computa-
tion of M. Berthelot, the proportion between those winds
from the west to those from the east, is as 9 to 1 in the
northern hemisphere. Besides being variable in direction,
they vary likewise extremely in the degree of force
with which they blow.

To these general observations we shall add a few others, with respect to the difference between the northern
and southern trade-wind. The direction of the trade-wind declines only from north-east to east, in its progressive westward, but it
is perturbed towards its southern bound by the ante-
monic pole. Between the south and north, or rather the thirteenth and thirty degrees of north latitude the wind is sometimes violent north-western winds. For that reason, ves-
Sels bound for the Indies or South America sail along the old continent till they attain the twenty-first
degree, when they turn to the west.
The southern trade-wind is more regular, and always
preserves its direction, and is less boisterous towards
its southern bounds. It extends, as we have already
observed, as we sometimes find in the sixteenth degree of north
latitude. In Africa, it blows from the
besides the tides, two kinds of motion are to be distinguished in the sea, which we shall name with Major Reconnell the drift-currents and the stream-currents. We refer their origin to the effects produced on the surface of the sea by the perpetual or prevailing winds; the former, even where they do not blow with great force, by their uninterrupted continuance displace and push forward only the surface of the sea in such a direction towards the region to which they blow. These drift-currents are constant, and run always in the same direction and commonly with pretty equal velocity. The drift-currents produced by the prevalent winds are not so constant, and are not so easily observed in the same direction as the drift-currents, with the same velocity. In the Atlantic Ocean, the former kind of drift-current is found only between the tropics, where it is produced by the trade-wind; and the latter to the north and south of the tropics, where they are ascribed to the effects of the prevalent winds.

The drift-current is, in some measure, observable all over that portion of the Atlantic Ocean which is under the influence of the trade-winds; but as these winds are not very constant to the north of the 23° parallel, and rarely extend to the south of the 9th, the current is constant only between these two boundaries. In the region of the calms it is very weak, and often entirely ceases. But in those regions in which the southern trade-winds blow, it is again strong and constant. In the Southern Ocean, where it has rather a northerly than a westerly motion; the latter, however, becomes by degrees more prevalent in proportion as the wind takes that direction in southern waters. The distance that a ship runs in a drift-current is from 9 to 10 miles per day, or, according to the computation of Humboldt, only one-fourth of the velocity with which those rivers in Europe commonly flow on which observations have been made.

The drift-current, which in the northern portion of the Atlantic is produced by the prevalent westerly winds, flows in a westerly direction; but it is not perpetual, and is so slow, that, when a ship keeps clear of the Gulf Stream, it only materially affects the whole course of a voyage from Europe and vice versa, returning the former and forwarding the latter.

It is easy to conceive that the drift-currents, especially the permanant, are very favourable to navigation, by rendering the voyages to some countries more easy, more certain, and of less danger. But the stream-currents are much less so. Up to the present time they have only proved adverse, causing great loss of life and property, and forcing vessels out of their course. Many navigators, running from Madeira to Rio de Janeiro, in the long, lie the coast of the latter island, have unexpectedly found their vessels cast upon the shores of Africa, nearly 300 miles out of their course. Such errors can only be detected by frequent astronomical observation, and by comparing them with the dead reckoning. If they are not detected in time, shipwreck sometimes becomes unavoidable.

We cannot compare the stream-currents of the ocean with the currents of the continents. The stream-currents cover such a portion of the surface of the sea, that they were transferred to the continents, they would no longer be considered as rivers, but as large branches of the sea. The causes to which they owe their origin are still involved in obscurity; our observations have not yet penetrated into the depth of the sea,—they have only slightly investigated its surface.—and there are some facts which lead to the opinion that the stream-currents are of great depth, and in many parts, if not in all, extend to the bottom of the sea. This indicates clearly that the currents must not be considered as mere currents which take place on its surface, and cannot affect the lower parts of its waters. The opinions which have been formed on this object may be seen under the article CURRENTS. We shall here only notice the largest of the present stream currents which belong to the Atlantic Ocean, and the Gulf Stream, flowing from North America to the shores of Europe.

The Equatorial current, so called from its course lying with the equator, may be supposed to be formed between the islands rated Thomas and Anno Bom, in the north or south of Bein. Hence it proceeds to the west on both sides of the equator, as far as 22° W. long., where it sends off a branch to the north-west. Soon afterwards it meets another, which runs more to the south-west, and together towards the capes of St. Augustin and St. Roque, on the Brazilian coast. At the distance of about 300 miles from these capes, it divides into two currents; the northern, running along the shores of Guiana, and hence deriving the name of Guiana Current; the southern, the Brazil Current, by the straits which separate the Leeward Islands, lying to the south of Martinique, from each other and from the continent of South America; and in some measure resembles the Caribbean sea. This current may be supposed to be formed from the branch of the equatorial current, running to the south-west along the shores of Brazil, to the mouth of the Plata River, and may even be traced to the Straits of Magalhaens and of La Maire. The length of this branch is unknown. We may suppose it to be about 1500 nautical miles more. The breadth of the current is different in different parts. Near the islands of St. Thomas and Anno Bom, it extends not quite over three degrees of latitude, occupying about 160 miles. But, in proportion as it approaches the west, it increases in breadth; opposite Cape Palmas it extends, except in a few places, over 5°; opposite Cape 8° lat. thus occupying in breadth more than six degrees, or upwards of 360 nautical miles. Further to the west it enlarges still more, and attains its greatest breadth, extending over 6° or 8° latitude. The breadth of this branch is from 9 to 10 miles per day, or, according to the computation of Humboldt, only one-fourth of the velocity with which those rivers in Europe commonly flow on which observations have been made.

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where the equatorial current runs, at least during those months in which it runs with great force.

That branch of the equatorial current which separates from it between 22° and 32° W. long., and at about 24° N. lat., is rather favorable to navigation, by forwarding the course of vessels returning from the south to the north. Its direction is toward the western direction; it may be called the North-west Current.

Its breadth is considerable, and may be estimated at the point of separation, at 100 or 200 miles; farther northward, even at 300; and at a northerly latitude, at 500 miles. Its velocity is not so great as that of the main equatorial current. Up to 15° N. lat., however, and even a little farther, it may run from 20 to 24 miles per day; but it then slackens, and becomes less perceptible, though it may at all times be traced by, and from, some of the islands and headlands belonging to the larger group of the Bahamas. At 35° N. lat. it is altogether imperceptible; but it soon increases in velocity, and before it enters the Strait of Florida at the Salt Keys, its track, one mile and a half per hour on an average; in the strait itself it acquires a formidable swiftness. The Strait of Florida begins at the Salt Keys, a reef lying 114 nautical miles to the north-east of Havana, and extends thence to the northward, where it terminates between the reefs of Cape Canaveral and the northern termination of the Lesser Caicos Islands Bank. But above 24° 30' N. lat., and along the whole north coast of the Florida peninsula, the current is very variable, and of small power. Hence, the trend of the Gulf Stream is south-west. After entering the Florida Strait, the velocity of the Gulf Stream soon increases to 24, 3, and occasionally 4 miles per hour; but after running at this rate about 90 miles, it arrives at the Narrows, where, past the barrier of the Biscayne Keys (belonging to the larger group of the Bahamas), the strait is only 44 miles wide, and its water-way, by reefs and shoals, is straitened to 334 miles. Here the current runs, in the month of August, at 3 miles per hour, and seldom below 5 nautical miles per day, and, on the whole, with very little diminution of velocity, runs northward along the shores of Florida to 31° N. lat., and afterwards nearly north-east along the shores of Georgia and of both Carolinas, as far as Cape Hatteras (about 39° N. lat.). In this course the current widens considerably in breadth, and decreases in velocity and temperature. Opposite the harbour of Charleston, its breadth is from sixty to sixty-three miles; and at Cape Hatteras, from seventy-two to seventy-five miles. At the latter place it runs only three and a quarter miles per day, and its temperature has fallen from 86° to 82°. At Cape Hatteras, the north-westerly or inner edge of the current is twenty-four miles south-east of the cape.

By the falling back of the coast north of Cape Hatteras, the current continues in the same direction as before, while the main body continues its former course to the north-east to a considerable distance. At about 40° N. lat. it meets the extensive Nantucket and St. George's Banks, which turn it off seaward, and it may be traced as far north as 45° N. lat. From this point it runs in the direction E. by N., bringing the southern extremity of the Great Bank of Newfoundland, and it continues in this line to 43° and 44° long. and 39° and 43° lat. Here, however, it bends by degrees to the east, south-east, and south, and having enclosed the islands of Flores and Corvo, which belong to the group of the Azores, its traces are lost in the waters of the ocean.

Sometimes, though rarely, the warm water of the current has extended the shores of Europe in the north-west. In these cases, the current, by its very great width of 300 miles, has the least effect in changing the direction of the stream-current, which continues, though much weakened, farther to the south, and may be traced to the Straits of Magalhaens and La Plata. As this current is formed between Brazil and the coast of Africa, it is the opinion of many intelligent navigators that the temperature of the water is affected by the seasons, for both extremes have been found to exist in the same month (May), between 83° and 85° long. It is probable that the main current does not always run in the same places, but...
ATHOS, a mountain at the extremity of the long peninsula which projects from Chalcis, and separates the Gulf of Consta and Monte Santo, on the coast of Macedon. The name Athos was properly applied to the whole mountainous peninsula, which is joined to the mainland by the low flat isthmus near the site of Acanthi. (Heron. vi. 22.) It is now known to the Franks by the name of Monte Santo, and to the Greeks as Ayia- oros, both implying 'holy mountain.' This appellation it has obtained from the number of monasteries, convents, chapels, and other sacred spots scattered round its sides. Some of the monasteries, of which there are twenty-six, are enclosed by high fortified walls, having rather the appearance of fortified towns than the abode of men devoted to the peaceful exercise of religion, and are provided with the means of defence and offence in several pieces of ordnance with which they are armed. Amongst the largest are, Xenophon, Ierou, Vatopadi, Pantokrator, Ayia Laura, St. Anne, and St. Paul. The number of monks alone in these establishments is supposed to exceed 8000, exclusive of lay brethren, artisans, and labourers. Ayia Laura contains upwards of 600 monks, and is subject to a very singular regulation, which some travellers have erroneously stated to be general throughout the peninsula; we refer to the prohibition of any female, even of the animal kind, being admitted within its walls. Herodotus (vi. 22) enumerates the towns within the peninsula of Athos.

The antiquity of these foundations is traced to the reign of Constantine; and authentic documents are still extant proving their existence in the time of Nicephorus Phocas, A.D. 961. The oath required from the monks is solemn and simple: to renounce for ever the world and its cares, considering themselves dead to all sublunary concerns, and to devote themselves to meditation, celibacy, retirement, and poverty. Though individually poor, there can be little doubt that the fraternities are by no means so; but it is their interest to conceal their riches, in order to avert the grasping avarice of the Porte. The principal stream of wealth flows from the spiritual source of religion, and consists in the obligations of pilgrims, who, in their peregrination to the chapel that crowns the sharp summit of the mountain, are expected to visit and contribute to each monastery on the tortuous road; yet the monks have not forgotten the temporal source of wealth from commerce, which is carried chiefly with Salonic and Smyrna. This trade consists almost exclusively of fruits, of which the various species of nuts form the chief portion. The gardens of the monasteries, which are very extensive, produce both fruits and vegetables of all kinds, and are kept in the highest order, as well as the farms, called metochi, attached to the several monasteries: these are scattered over all the most fertile spots of the peninsula.

The Russians, Bulgarians, and Servians have each their respective monasteries: and caravans of from two to five hundred pilgrims arrive periodically from those countries, consuming every thing in the villages on their road. A visit to this sacred spot is of the same importance to the members of the Greek church as a pilgrimage to Mecca with Mohammedans. The chapel on the summit is, however, only reached by the more zealous; the road is extremely difficult, requiring the use of both hands and feet to accomplish the ascent. None of the monks reside permanently in this chapel.

On the sides of the mountain are vast forests of pines, oaks, and chestnuts: the pines grow to an immense size. The appearance of the mountain is very magnificent, standing in lonely majesty at the termination of ridges of considerable elevation, and rising abruptly from the sea to a height of 6349 feet. The shores at its base are so steep that there is no anchorage for vessels, the small craft that trade here being obliged to keep constantly under sail while taking in their cargoes: within a quarter of a mile of the coast there are from 80 to 100 fathoms water. The dangers of the shores of Athos were experienced by the Persian fleet under Mardonius (Herod. vi. 44), which was completely destroyed by a storm on this coast.

Although the monks themselves are shamefully ignorant, yet their monasteries possess libraries among which there
Athy was incorporated by charter of James I., and is governed by a recorder, sovereign, town-clerk, and two bailiffs. It sent two members to the Irish parliament, and was under the influence of the duke of Leinster. It is now administered with Naas the borough of Kildare; and the remaining tower of the castle already noticed is used as a prison and is an appendage to the county gaol of Naas. The population in 1831, was 4,494. There is a parochial school for about ninety children (boys and girls), supported partly by subscription and partly by the Kildare Place Society; and a catholic free school, in which about 240 children of both sexes are instructed, is supported by subscription.

Athy is in three parishes, Rehan or Churientown, St. Michael, and St. John (the last being a chasuble), with others, form an ecclesiastical union in the diocese of Dublin and Glendalough, and in the ecclesiastical province of Dublin. The church, which is in the parish of St. Michael, was built about 1740, and is in good repair. The population of the whole union in 1831 was 6,539.

The county court-house was erected some time after the church, and the barric about thirty years afterwards. There are six parishes in the union.

Athy was built for the Irish by the Irish in 1308, and in 1315 plundered by the Scots under Robert Bruce.

ATKYNs, SIR ROBERT, a judge of the Court of Common Pleas during the reign of Charles II., and Lord Chief Justice of Ireland during the Commonwealth, was a learned lawyer, much distinguished for his attachment to popular rights and for the uprightness and independence of his conduct during a period of judicial profligacy and subserviency. He was descended from an ancient and opulent family in Gloucestershire. On the sea as well as in the air, his peculiar characteristic was a singular circumstance, that for more than 300 years consecutively, some member of this family always presided in one of the superior courts of law. His father, Sir Edward Atkyns, was a judge of the Court of Common Pleas during the Commonwealth, and shared with Hale, Rolle, Wyndham, and other judges, the merit of the various improvements in the administration of the law which took place at that period. Immediately after the Restoration, Sir Edward Atkyns was named as one of the judges in the special commission for the trial of the regicides, and appointed a Baron of the Exchequer, in which latter office he continued till his death, which took place in 1665, at the age of 82. The exact date of Sir Robert Atkyns's birth has not been ascertained; but there is no doubt that he was born in the course of the year 1621. He received the rudiments of his education at his father's house in Gloucestershire, and was afterwards entered at Balliol College, Oxford. After spending several years at the University, he removed to the continent of Europe, to the continuation of his professional studies to Lincoln's Inn, of which society his father had been a member. Of his history and conduct during the Commonwealth, no particulars have been preserved; but as he was a Knight of the Bath, with many persons by condescension, at the annunciation of the year 1660, it is probable that with his father he had attached himself to the moderate party in the profession during that troublesome period. He was returned to the first parliament of Charles II., for the borough of East Lothian, and continued to hold his seat till he was raised to the Bench; and from the frequent mention of his name on Committees, and in the general business of the House, he appears to have devoted much of his time to parliamentary duties. He retained a seat for some time before his removal to the Bar, and his name is to be met with frequently in the Bar. In 1661 he was chosen recorder of Bristol; and in the early part of the year 1672 he was made a judge of the Court of Common Pleas, having been for some time before Solicitor-General to the Queen. His conduct and opinions have maintained his general character for learning and independence, though, from his language and conduct on the trials of the Jesuit priests and other persons charged with the Popish plot in 1678, he has incurred some censure. In the year 1688, he was a supporter of the cause of the Prince of Orange, which pervaded the country respecting that transaction, and to have played his part in the disgraceful tragedies at that time enacted in Westminster Hall.

In the year 1689, however, the conduct of the court was changed by the corruption of the judges for the introduction of arbitrary measures, drove him from the bench. Whether he was displaced by the crown, or whether he voluntarily resigned a situation which he could not retain without sacrificing his independ-
ence, is uncertain; but in his evidence before a committee of the House of Commons previously to the impeachment of Sir William Scroggs, he charges the chief justice with having made an ill representation to the King of some ex-
ceptions he had used in favor of the right of petitioning. (Commons' Journals, Dec. 23, 1680.)

A circumstance occurred in the year 1682, which eventually induced Sir Robert Atkyns to resign his office of recorder of Bristol. Much dissension prevailed among the members of the corporation and a contest arose of members desiring the city to serve in the Oxford parliament, on which occasion Sir Robert Atkyns was an unsuccessful candidate in opposition to the mayor, tended not a little to inflame the various parties. It happened shortly after that he was present and voted at the election of an alder-
man, when an individual obnoxious to the mayor was chosen. The meeting at which this election took place, though attended by a majority of the aldermen, was as-
sembled without a legal summons from the mayor and against his wishes; upon which, the mayor and the rest of the corporation preferred an indictment for a riot, at the quar-
ter-sessions, against Sir Robert Atkyns and two other persons who were present at the election. The case having been re-
moved into the King's Bench, was tried at the Bristol sum-
er assizes, in 1682, and the defendants were found guilty; upon which, Sir Robert Atkyns in the ensuing term per-
sonally appeared in court and moved in arrest of judgment. He was granted a new trial on this occasion. Fully replying to the third volume of Modern Reports, p. 4, was temperate, forcible, and effective, and the Court of King's Bench ar-
rested the judgment upon a technical error in the indict-
ment. By the advice of his chief Justices, Pemberton, and his brother Sir Edward Atkyns, then one of the bar-
os of the Exchequer, immediately resigned his recordership,

[Athena Perim.] a Natural size

shells, the original of the fossil ammonites, or cornua Am-
momus, which, however, must have belonged to the class of

[Albertopolus]...
ATL

the front elevation of the figures, with a profile of one of them, has been engraved with the permission of the publisher of Stuart's "Athens." (For a more detailed account of these figures, see vol. iv., cap. i. of Stuart's "Athens," published by Weale, Holborn.)

In the Tepidarium of the baths at Pompeii, Atlantes of baked clay, in high relief, and incised with the finest marble stucco, painted to represent life, are ranged at equal distances round the room, to support an entablature from which the arched ceiling springs; in the intervals between the figures, niches are formed for the dress of the bathers. The figures are about two feet high, and stand, like those at Agrigentum, on a plinth. In the annexed cut, from the Society's work on Pompeii, a representation of these figures is given.

In the architecture of the modern Italians, the Atlantes are often found supporting the entablature over an entrance to a palace or a garden. At Milan, there is a colossal example of the former; and the rustic gates at the entrance to the Parco Sempione at Milan, the design of Vignola, may be added as an example of the latter.

The name of the figure is attributed to that part of the name which separates the old from the new world; it was given to the eastern shores of the Americas, and the western shores of Europe and Africa. Nature not having fixed any boundary between it and the northern seas, which are adjacent to and connected with it, we shall suppose that it is divided from the Pacific Ocean by a straight line drawn from Cape Horn, the southern extremity of America, to the northeastern point of the island of Nova Zembla. By fixing those boundaries, a part of the Northern Polar or Icy Sea, as well as of the

Antarctic Ocean, is included in the Atlantic, but these contiguous parts cannot well be separated in a description of the Atlantic.

Though the Atlantic Ocean extends from pole to pole, its breadth is comparatively not great. The two continents which form its shores appear nearest one another between 60° and 65° N. lat., where the coast of South America is only 800 geographical miles from those of Norway, a distance hardly greater than that between Nantes in France and Cape Wrath in Scotland. Between Capet St. Roque in Brazil, about 5° S. lat., and the coast of Sierra Leone in Africa, between 5° and 6° N. lat., the continents are not above 1,500 geographical miles from one another, or about as far as the North Cape from the Norwes. These are the two parts where the width of the Atlantic Ocean is least. Its greatest breadth is under the Equator, between the coast of the island of Florida and the western coast of Morocco in Africa, separated by upwards of 3,600 geographical miles, or 60° of latitude.

Humboldt compares the form of the Atlantic Ocean to that of a longitudinal valley, whose projecting and retiring angles correspond to one another. He supposes it to be formed by a very violent rush of the waters from the south, which being repulsed by the mountains along the coast of South America, took a direction towards the north, and formed the Gulf of Guinea; here being stopped by the high coast of Upper Guinea, and obliged to run again to the west, the stream gave origin to the Caribbean Sea and the Gulf of Mexico, and issuing thence ran between the mountains of Western Europe and North America, its course gradually diminished in velocity and force, and at length subsided. In confirmation of this hypothesis, he observes, that the primitive mountains in the Brazilian provinces of Rio, Minas Geraes, Bahia, and Para, resemble the mountains in the same degree of latitude as those of Congo, and that the immense plain along the banks of the Amazon river corresponds to that traversed by the Quorra; further, that the mountains of Parime in America lie opposite to those of Upper Guinea, and that the great plain, which before this catastrophe, according to his hypothesis, extended to the south of the present mouth of the Mississippi, and by the submersion of which the Caribbean Sea and the Gulf of Mexico were formed, are under the same parallel as the great desert of the Sahara.

The South Atlantic Ocean does not offer any other peculiarity in its formation, but the Northern is distinguished by several.

First, we may observe the formation of its islands lying within the polar circle. They are countries of considerable extent, but divided by extremely narrow, long, and winding straits, of very difficult navigation, which are increased by their being continued for a few weeks in the year, free from ice. For instance, the group of Nova Zebril consists of at least two larger ones; that of Spitbergen of three larger and many smaller ones; and it is rather more than a supposition, that the extensive country known by the name of Greenland is composed of a number of large islands, divided from one another by narrow, long, and winding straits. This peculiarity in the formation is repeated, though on a less scale, in the islands which skirt the coasts of Norway, where, in some instances, the string which once divided them from the continent have been filled up by earthy matter, and now resemble exactly Glen More in Scotland. In no other part of the seas has such a disposition of islands been observed, except in those on the coast of America, and those on the N.W. coast of the Antarctic Ocean.

But a still more remarkable and more important feature of the North Atlantic, is its connexion with Mediterranean, or ocean, seas of great extent. Such as the Mediterranean Sea in the Old Continent, and Hudson's Bay and the Gulf of Mexico, with the Caribbean Sea, in the New World. These seas doubtless form part of the Atlantic Ocean; but they cannot be considered as bays or gulfs, the connexion between them is effectuated by narrow straits, and not by an open sea; and besides, they extend far into the continents, some of them, as the Mediterranean Sea, affords itself a navigation of 3,600 geographical miles. Some parts of the seas, where the Gulfs of Persia and of Arabia resemble rather the Mediterranean and the Baltic Seas, than the Gulf of Bengal or that of Guinea; but they are of much less extent. This peculiarity in its form brings

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the Atlantic Ocean and its appendages into immediate contact with a much greater extent of country than the other seas, and so obtain a more thorough going knowledge of the continental shores of the Atlantic exceed in extent those of the Pacific Ocean and the Indian Sea, the two other great divisions of the Ocean, taken together, though the latter cover at least three times the surface of the former.

The continental coasts of Europe from the strait of Waddenzee to that of Caffa (the entrance of the sea of Azof), are about 17,000 geographical miles; those of Asia along the Black Sea, the Sea of Marmora, and the Mediterranean Sea, are nearly 3000 miles; and the coasts of Africa, along the Gulf of Guinea, are nearly 4000 geographical miles. Add to these the western shores of Africa from the strait of Gibraltar to the Cape of Good Hope, which comprehend about 6000 geographical miles, and the whole eastern shores of the Atlantic Ocean amount to 28,000 geographical miles. In computing its western shores, we shall consider Greenland as a part of the continent, though it probably is not exactly true; and on this supposition we find that the eastern shores of America comprehend about 20,000 geographical miles. Consequently, the coasts of the Atlantic Ocean have a circuit of about 45,000 geographical miles. The coasts of Asia are upwards of 30,000 geographical miles; but nearly 9000 of them belong to the Mediterranean Sea, and consequently to the Atlantic Ocean. The eastern coast of Asia includes about 6000 geographical miles, the whole western coast of America at upwards of 11,000. Thus the coasts of the Pacific Ocean and those of the Indian Sea taken together do not amount to much more than 44,000 geographical miles, or nearly 4000 miles less than those of the Atlantic Ocean. In the conclusion we mention the northern shores of Asia along the Polar Sea are included, and as they amount to upwards of 2600 geographical miles, the account is still more in favor of the Atlantic Ocean. We shall here enlarge on the advantages which such a peculiar form of the Atlantic must offer for the progress of civilization.

These advantages would extend to a great distance into the interior of both continents, if the number and magnitude of the rivers, and the seas, were proportionate to the extent of its shores. On the eastern side, the surface, whose drainage falls into the Atlantic, is comparatively limited, and does not comprehend even the whole of Europe: the greatest river of this part of the world, the Volga, carries its waters to the Caspian Sea, and no European river of the first or second class flows into the Atlantic Ocean; the largest being probably the Rhine, whose course does not exceed 700 English miles. But three rivers of the second class, the Nile, the Danube, and the Dnieper, enter the Mediterranean, and moreover, the boundary line which marks the region from which the waters run into the Atlantic Ocean on the east, is extremely irregular. On the north it begins with the most northern extremity of the Ukraine and follows the sixty-first parallel, where, at the sources of the Kamianka, it suddenly turns to the south-west and then to the west, in which direction it continues to the sources of the Volga, hardly 150 miles distant from the Gulf of Finland. From this point it runs nearly south to the 52° of lat., from which it extends east-south-east between the tributaries of the Volga on one side, and those of the Dnieper and Don on the other. Having thus attained the 45° of E. long., and nearly the 50° of N. lat., it takes a due southern direction between the Neva and Volga, and finally reaches the middle of the Caucasus, it declines to the south-west, and separates the upper course of the Euphrates from the small rivers which fall into the Black Sea and the Gulf of Scædar. From these, the Volga along the coast of Syria at an average distance of less than 150 miles, and then, in a southerly direction, to the Isthmus of Suez. In Africa it encloses the valley of the Nile, the upper part of which is of unknown extent. To the east of this river, the boundary of the Atlantic Ocean, the westernmost branch of the Indian Ocean, and at the sources of the Nile it is at least 1600 miles distant from the Mediterranean Sea, and consequently from the Atlantic, the greatest distance which it probably attains in the old world. From near the mouths of the Volga and Don to the 45° of lat., following generally the thirteenth parallel till it arrives at the shores of the Atlantic Ocean opposite the Canary Islands. To the south of the thirtieth parallel, the boundary of the drainage of the Atlantic Ocean falls in with its shores; the great African desert not being included in it.

What parts of Africa south of the Sahara belong to the basin of the Atlantic Ocean, our present geographical knowledge does not enable us to determine with accuracy. Perhaps we shall not much overrate it, in supposing that the drainage of half of its surface flows to the Atlantic. We therefore may suppose that the basin of the Atlantic contains about three millions of square miles in Europe, not half a million in Africa; which all taken together do not amount to more than nine millions and a half, or about one-fourth of the continent of the ancient world; but the new continent belongs almost entirely to its basin.

The strait of Gibraltar is the passage between the Pacific and Atlantic Oceans runs at a distance of from 20 to 25 miles from the shores of the former, except in the very southern extremity of the Andes (see ANDES), and the extensive plains which cover the greatest part of the surface of that continent send their waters to the Atlantic Ocean. Probably not less than six millions of square miles of the surface of South America belong to the basin of the Atlantic, and only half a million to that of the Pacific Ocean. In the line which separates the waters falling into both oceans lies at a much greater distance from the shores of the Pacific Ocean; but even here the great plains to the east of the Stony Mountains send their rivers to the Atlantic: so that, if we assign to the Pacific Ocean even one half of the inland surface drained by the rivers falling into the Atlantic, may amount to upwards of six millions of square miles, whilst those falling into the Pacific probably do not drain more than two millions. According to this account, the basin of the Atlantic on both sides of the world of the Atlantic and which there are to be considered as forming part of the shores of the oceans, it can be said to contain any group of islands between 30° N. lat. and 50° S. lat. The groups of the Azores, Canaries, and Cape Verde Islands, as well as those of Guinea and the Berbers, are parts of the boundaries which mark the region from which the waters run into the Atlantic Ocean.

The Canaries, included Madeira, are much resorted to by vessels, from their situation on the verge of the regions in which the elements essential to navigation (viz., the air and the water) undergo a change: for to the south of these islands, the air, as well as the southerly currents, are generally much less changeable than in the latitudes nearer to the poles.

With respect to the winds, the whole surface of the Atlantic Ocean may be divided into three regions, in one of which the winds maintain a constant course from east to west, and have obtained the name of trade-winds. This region extends to about 30° of lat. on both sides of the equator. The other two regions, to the north and south of the equatorial belt, are parts of the winds in the two hemispheres, subject to a continual change of the wind, and are therefore called the regions of variable winds.

It is not here our object to enter into an explanation of the natural causes which produce the phenomenon of the trade-winds [Trade Winds]; but we shall historically observe the deviations of the wind, which are found to exist in the Atlantic Sea, and which themselves affect the navigation of it no less than the trade-winds.

The eastern part of the region of the trade-winds, where winds blow, on the north side of the equator, from northeast; and on the south, from south or southwest, as we shall see hereafter. If they continued in these directions, they would of course meet another, but this is not the case: the trade-winds, which are called by the region of calms. This region is not always of the same extent, and does not occupy the same part of the ocean, though it always extends over the whole of it from the coasts.
of Africa to those of America. It sometimes occupies not much more than two, and at other seasons up to ten degrees of the mid-latitude of the equator, and is therefore not confined to the southern hemisphere. This column of air extends equally on both sides of the equator, but is rather in the northern hemisphere. It rarely extends to the south of the line, and never further than two and a half degrees of southern latitude. The position of this column of air is not the same as that of the northern; it is not a line of separation between the winds which blow from the north and south of the line. To the east of that line, the direction of the winds varies between S.S.W. and S.S.E., and in the west it is between N.E.E. and E.N.E. These trade-winds do not begin to blow on the coast of the continents, but at a considerable distance from them.

It is to be attributed to the difference between the eastern and western hemispheres, as the sun is not observed to the thirteenth parallel; at this time the trade-wind encroaches considerably on the northern hemisphere, being found as far as the fourth degree of southern latitude. These trade-winds pass the equator all year round, except in January, when the region of trade-winds extends to a half degree of southern latitude. The central line of this region may therefore be placed at about five or five and a half degrees of southern latitude, and it may extend over five or five and a half degrees of latitude, or from 300 to 330 geographical miles. The calms which reign in this region would oppose an insurmountable obstacle to the progress of vessels, if the water were not so gently agitated by the trade-winds. The trade-winds appear towards the east, which seems to announce a violent storm; suddenly a wind rises, blows with great violence for a few minutes, sends down a few drops of rain, and then returns. This is the cause of several local storms which occur daily in this region. These dajuals suggest that there are two columns of trade-winds which are passed by vessels, but it always proves a very disagreeable navigation.

The trade-winds themselves are subject to change in their extent, according to the seasons, and in their direction, according to the different seasons of longitude. They withdraw farther from the equator when the sun is in the hemisphere in which they blow, and they occupy a wider range towards the coast of America, than at a short distance from the old world. In the seas bordering on the changes in the range of trade-winds, the diffusive range of latitude, and of the winds, but they always run in an opposite direction to the equator. They are observed in the Gulf of Guinea or Benin, and along the coast of Southern Africa to 35° S. lat., the wind does not materially differ from the southern trade-wind, blowing constantly from the south-west, or nearly so.

The general direction of the southern trade-wind by the continent of South America is considerable. Along the coast of Brazil a regular monsoon is formed, which between September and March proceeds from between N. 4° E. to N.E. 4° E., and from March to September from S.E. 4° E. to S. 4° E. This monsoon blows commonly with considerable force, and extends to a great distance from the shore, especially in the months of June and July, when it is at its height, at which time it would be admirably adapted to the navigation of the Atlantic Ocean. To the north of the equator the trade-wind does not undergo any change along the coast of America. This is probably to be attributed to the lowness of the coast of Guyana, and that of the extensive and frequent inundations of the Orinoco. It is even observed that in this quarter the trade-winds extend so far over the land, that their effect is felt at Angostura, 240 miles from the mouth of that river.

These are the winds which blow on both sides of the equator to the thirteenth degree of lat in the region of the perpetual winds. To the north and south of this region the winds are variable; but it is observed that westerly winds prevail in both hemispheres, and, according to the computation of Major Remell, the proportion between those that blow from the west to those from the east, is as 9 to 5 in the northern hemisphere. Besides being variable in direction, they vary likewise extremely in the degree of force with which they blow.

The currents of the Atlantic are less important than the winds, but still they contribute considerably to accelerate or retard navigation, and on that account deserve the greatest attention. But, as hardly sixty years have passed since the time when the first observations were begun to be made, the navigator as well as the geographer, and as the subject is involved, from its nature, in many difficulties, the information respecting them is not such as could be wished; still much has been collected, which is both interesting and valuable. In the western hemisphere it is hardly any considerable portion of the ocean which always remains still. The tides do not occasion an absolute removal of the water from one place to another, except near the coast; and even there this motion is limited to a comparatively small distance. But
besides the tides, two kinds of motion are to be distinguished in the sea, which we shall name with Major Rennell the drift-currents and stream-currents.

The drift-currents owe their origin to the effects produced on the surface of the sea by the perpetual or prevailing winds; the former, even where they do not blow with great force, by their uninterrupted continuance displace and push forward large masses of water in the direction of the wind, thus determining a motion towards the region to which they blow. These drift-currents are constant, and run always in the same direction and commonly with pretty equal velocity. The drift-currents produced by the prevalent winds are not necessarily continuous in the same direction, nor with the same velocity. In the Atlantic Ocean, the former kind of drift-current is found only between the tropics, where it is produced by the trade-wind; and the latter to the north of 36°, where they are ascribed to the effects of the prevalent winds.

The drift-current is, in some measure, observable all over that portion of the Atlantic Ocean which is under the influence of the trade-winds; but as these winds are not very constant to the north of the 23d parallel, and rarely extend to the south of the 9th, the current is constant only between these two boundaries. In the region of the calms it is very weak, and often entirely ceases. But in those cases where the calms subsist for a considerable time, the sea begins to be again perceptible and constant, except along the coasts of Africa, where it has rather a northerly than a westerly motion; the latter, however, becomes by degrees more prevalent in proportion as the wind takes that direction in addition. The mean velocity of the drift-current is from 9 to 10 miles per day, or, according to the computation of Humboldt, only one-fourth of the velocity with which rivers in Europe commonly flow on which observations have been made.

The stream-currents, which in the northern portion of the Atlantic is produced by the prevalent westerly winds, flows in a westerly direction; but it is not perpetual, and is so slow, that, when a ship keeps clear of the Gulf Stream, it only makes hardly any impression upon the whole course of a voyage from Europe to America and vice versa, retarding the former and forwarding the latter.

It is easy to conceive that the drift-currents, especially the permanent, are very favourable to navigation, by rendering the voyages to some countries more easy, more certain, and less dangerous. But the stream-currents are much less so. Up to the present time they have commonly proved adverse, causing great loss of life and property, and frequently derailing of their course. Many navigators, running southward from the coast of Madeira to the coast of Brazil, and by arriving at the latter island, have unexpectedly found their vessels cast upon the shores of Africa, nearly 300 sea miles out of their course. Such errors can only be detected by frequent astronomical observations, and by comparing them with the dead reckoning. If they are not detected in time, shipwrecks sometimes become unavoidable.

We cannot compare the stream-currents of the ocean with the rivers of the continents. The stream-currents over such a portion of the surface of the sea, that were they transferred to the continents, they would no longer be considered as rivers, but as large branches of the sea. The causes to which they owe their origin are still involved in obscurity; our observations have not yet penetrated into the depth of the sea,—they have only slightly investigated its surface,—and there are some facts which lead to the opinion that the stream-currents are of great depth, and in many parts, if not in all, extend to the bottom of the sea. This indicates clearly that their origin must not be sought in the changes which take place on its surface, and cannot affect the temperature, velocity, and temperature, their only properties which, up to this time, have been in some degree ascertained.

Large stream-currents traverse the Atlantic Ocean; the Equatorial Current, running from the coast of Africa to that of South America, and the Gulf Stream, flowing from North America to the shores of Europe.

The Equatorial current, so called from its course lying near the Line, may be supposed to be formed between the islands of St. Thomas and Anno Bom, in the bright or bay of Bamm. Hence it proceeds to the west on both sides of the equator, as far as 22° W. long., where it sends off a branch to the north-west. Soon afterwards it proceeds north-westward, and reaches the two capes of St. Augustine and St. Roque, on the Brazilian coast. At the distance of about 300 sea-miles from these capes, it divides into two currents; the northern, running along the shores of Guiana, and hence deriving the name of Guiana Current, thence divides into two branches by the straits which separate the Leeward Islands, lying to the south of Martinique, from each other and from the continent of South America; and in some measure contributes to form the Brazil Current, or the other branch of the equatorial current, runs to the south-west along the shores of Brazil, to the mouth of the Plata River, and may even be traced to the Straits of Magalhaens and of La Maire. The whole length of this current, from St. Thomas to Cape St. Roque, amounts to upwards of 2500 nautical miles; and if we add the Guiana current, from the point of division opposite that cape to the strait dividing the island of Trinidad from that of Grenada, its course is increased by 1500 nautical miles more. The breadth of the current is different in different parts. Near the islands of St. Thomas and Anno Bom, it extends not quite over three degrees of latitude, occupying about 160 miles. But, in proportion as it increases in breadth, it becomes weaker. Opposite Cape Palmas it extends from 1° 45' N. lat. to nearly 5° S. lat., thus occupying in breadth more than six degrees, or upwards of 360 nautical miles. Farther to the west it enlarges still more, and attains its greatest breadth, extending to nearly 10° or 11° S. lat. The breadth of this branch of the current is from 9 to 10 miles per day, or, according to the computation of Humboldt, only one-fourth of the velocity with which rivers in Europe commonly flow on which observations have been made.

The Equatorial Current may be considered as the strongest part of the ocean. It is but in the months of May, June, July, and August, that it runs with great force; from October to March it is moderate, and sometimes very weak. Between 16° and 23° S. lat., it runs with a pretty uniform rapidity, and is not capable of the seasonable changes which take place in the other parts of the ocean. As it is of great depth, it is not affected by the changes of season, and seems to be less affected by the seasons; but its velocity in these parts is not exactly ascertained; it seems, however, to run 30 miles and upwards per day. The temperature of the water in the current varies also, according to the seasons and the different parts of its course, but is always some degrees lower than that of the ocean.

The water of the ocean to the north of the current is 80° or 81° Fahrenheit, and to the south, 78° or 79° in summer; but in the current, the thermometer shows, near Anno Bom and St. Thomas, only 75°, and not more to a great distance westward, where the temperature falls even to 73°, and at this temperature it remains for more than 12° of longitude. Afterwards it rises again to 74°, and by degrees to 76° Fahr. In summer this temperature is lower, as it is estimated as being, at an average, 5° or 6° under that of the water of the ocean; but in winter it is much less. This current greatly affects the course of vessels which are passing from the north to the south, or from the west of the 23° of long., carrying them forcibly to the west beyond Cape St. Roque, where they are driven towards the northern shores of Brazil, and are not able to regain their place when they are driven towards the southern shores.

It is a fortunate circumstance that the direction of this current does not coincide with the region of the calms; otherwise, both together would probably form an impenetrable barrier to the progress of vessels navigating these seas. But the southern trade-wind commonly blows in that region.
where the equatorial current runs, at least during those months in which it runs with great force.

The Gulf Stream is known to be the warmest current in the world, where the warm water which enters it from the Caribbean Sea, between Cape Canaveral and Cape Saint. Antonio, by being subjected to a nearly circular rotation, and influenced probably by other causes, is raised to a high degree of temperature, the thermometer under the same parallel (25° N. lat.) the ocean only shows 76°.

Two currents, which put in motion perhaps three-fourths of the waters of the Gulf of Mexico, unite about 60 nautical miles south of Havana, where the trade-winds re-enter the Gulf of Mexico, and make the rock of Isabella on the side of Cuba, and the Tortuga on that of Florida Reefs; and this union gives rise to the Gulf Stream. In the beginning its course is not rapid, and along the shores of Cuba it is weak, and sometimes nearly imperceptible; but in a short time it appears to the eyes of the navigator as a setting of these two currents, which, entering the Strait of Florida at the Salt Keys, a reef lying 141 nautical miles to the north-east of Havana, and extends thence to the north, where it terminates between the reefs of Cape Canaveral and the northern termination of the Lesser Bahama Bank, at about 26° N. lat. After entering thisAmba Bank, and the Straits of St. Augustine, it enters the Gulf of Mexico, and occasionally 4 miles per hour; but after running at this rate for 90 miles, it arrives at the Narrows, where, between Cape Florida and the Bimini Islands (a small group of islands to the north), it loses all its force, and is only 44 miles wide, and its water-way, by reefs and shoals, is straitened to 554 miles. Here the current runs, in the month of August, at 5 miles per hour, and seldom below 5 through the remainder of the strait, which, towards its southern extremity, becomes wider, and about 30 miles. In this course the current has traversed about four degrees of lat. towards the north-west, and its temperature is not sensibly diminished.

Issuing from the Strait of Florida, the Gulf Stream runs northward along the shores of Florida to the Georgia, and afterwards nearly north-east along the shores of Georgia and of both Carolinas, as far as Cape Haters (about 35° N. lat.). In this course the current widens considerably in breadth, and decreases in velocity and temperature. Opposite the harbour of Charleston, it is wide from sixty to thirty-three miles; and at Cape Hatteras, from seventy-two to seventy-five miles. At the latter place it runs only three and a quarter miles per hour, or seventy-eight miles per day, and its temperature has fallen from 86° to 83°.

At Cape Hatteras, the north-western or inner edge of the current is twenty-four miles south-east of the cape. By the falling back of the coast north of Cape Hatteras, the current directs its western edge towards the north, thus increasing the breadth of the current. At about 46° N. lat., it meets the extensive Nantucket and St. George's Banks, which turn it off seaward, and it never after approaches the land. From the point it then runs nearly in a line with the southern extremity of the Great Bank of Newfoundland, and it continues in this line to 43° and 44° long., and 37° and 43° lat. Here, however, it bends by degrees to the east, south-east, and south, and having enclosed the islands of Flores and Corvo, which belong to the group of the Azores, its traces are lost in the water of the ocean.

Sometimes, though rarely, the warm water of the current extends to the shores of Europe. In this part of its course it is very strong, and is seen in all parts of the south latitude, where it is seen in all parts of the south latitude, and as far south as 45° 30'. This great length of the current, because the warm water expands to the north and to the south to a considerable distance in the sea, where no current can be traced; in the former direction to a degree, or a degree and a half of latitude; and on the southern side, to a degree and a half, it has been met with at 33° 30' and 34° 30'. The strongest current is commonly met with between 35° and 39° lat.; and it is the opinion of many intelligent navigators, that the breadth of which can not be called less than 100, 200, 300, 400, 500, or 1000 nautical miles. The warm water sometimes only extends to 140 miles, and then it seems to occupy only the current, but at other times it is found to cover 186, 240, 270, and even 320 miles. It does not seem that this difference in the breadth of the warm water is accounted for, as both extremes have been found to exist in the same month (May), between 63° and 65° long. It is probable that the main current does not always run in the same place, but

The second branch of the equatorial current is the Brazil Current, which branches off from the equatorial at 5° S. lat., opposite Cape St. Augutins, at a distance of about 350 miles to the east of it. Between the boundaries, where it branches off, and 16° or 17° of S. lat., it has considerable breadth, and does not approach the shores of South America nearer than 250 miles. Afterwards it increases in breadth and velocity, and approaches nearer the land. Opposite Cape Toro it is at 200 miles from land. Looking now to the north, the shore south of this cape falls off to the west, the current is at a greater distance; and though it soon changes its direction, it does not approach nearer than 250 miles to the coast, off the mouth of the Plata river, running all this way from 15 to 20 miles per day. It is crossed by the Pata river, just as the Guiana current by the Ambara river. Here too the current of the river is observable in the sea at a distance of upwards of 500 miles, but it seems not to have any sensible influence on the direction of the current, which continues, though much weakened, farther to the south, and may be traced to the Straits of Magalhaens and Le Maure. As this current runs at a considerable distance from the shores of Brazil, the navigation is never endangered. At times, however, the Lerma river, which mostly, however, follow the direction of the monsoons which blow along this coast.

The most remarkable, and at the same time the best

known of the Atlantic currents, is the Gulf Stream, which

traverses the sea between the parallels of 36° and 44° in

the northern hemisphere. Its course, which separates

from it between 22° and 23° W. long., and at about 26° N.

lat., is rather favourable to navigation, by forwarding the
course of vessels returning from the southern hemisphere.

In the Gulf Stream, in a migrant sea, it may be called

the Acclimated Current. Its breadth is considerable,

and may be estimated, at the point of separation, at

160 or 200 miles: farther northward, even at 300; and at a

more considerable distance, at 240 nautical miles; but its

velocity is much greater. It is known equatorial Harz, and

is known equatorial Harz, and

Up to 16° N. lat., however, and even a little farther, it may

run from 20 to 34 miles per day; but it then slackens, and

becomes less perceptible, though it may at all times be

traced to 18° N. lat., and commonly even to 25°. In the

latter part of its course, it is lost in the drift-current, to

which it seems to give a north-western direction, which is

observable all the way from 35° W. long. to Trinidad. The accelerated motion of the

drift-current in these seas may also, in some measure, be

the effect of this north-west current.

The Guiana Current is properly speaking, the continua-
ton of the equatorial current, and runs from Cape St.

Roque in Brazil, to the Island of Trinidad, along the low

coast of the latter, the velocity of the current is not

calculated, and of great velocity, running at some

places two miles per hour. Here too it is observed that

its velocity is much greater in summer than in winter and

approaches the same much more closely by the river

rising from the mouth of the Amazon river into the sea;

after this it has taken place, the current runs three miles

per hour. It is, however, to be observed, that the waters

of the Amazon river do not mingle with those of the

current; they cut through each other, and the two masses

separate, cause eddies and whirlpools; but at last the river

passes the current, and is observable at a distance of 500

miles from its mouth. It is remarkable that the Amazon

cameras are in the direction of the current. Farther to

the north, the Orinoco enters the current. This river, which

pours a prodigious mass of water into the ocean on both

sides of the island of Trinidad, enters the current at a very

acute angle; and thus soon mixes its water with it, and con-

siderably accelerates its course. Soon afterwards the current

enters the Caribbean Sea by the straits lying between Trini-
dad and the island of Martinique. Between Trinidad and

Grenada, it runs from 1 to 1½ mile per hour; less between

St. Vincent and St. Lucia; and between the latter island

and Martinique its course is reduced to 21 miles per day.

Farther to the north, and especially at the Virgin Island,

the sea-water runs only from 8 to 10 miles per day, and

that is the common rate of the drift-current. We find no

evidence whatever of the mass of the water of the sea, or

temperature from that of the ocean. It may be said that

the Guiana current is lost in the Caribbean Sea, for in the

latter no perpetual current has been observed. The whole

course of the Guiana current may be reckoned at about

2,450 nautical miles.
The Gulf Stream, being itself of considerable breadth, and covering besides with the warm water brought down by it large tracts of the sea on both sides of its course, forms a vast expanse of water on the surface of the ocean. It extends from the 30th meridian to the 70th, and sometimes covers in breadth at the east end all the sea from 33° to 45° N. lat., but at its western extremity it contracts to about 160 or 176 nautical miles. It is accordingly 2000 miles in length, and, at a mean, 350 miles in breadth, and thus forms a more extensive surface than the Mediterranean Sea. This body of water contains, besides the stream itself, its counter-currents, offsets, overflowings, and deposits, the cur-rateurs of the coast of California, the California Current, and the Mexican Sea may therefore be considered as a vast caudron for heating water, which is distributed over the central parts of the North Atlantic. It cannot be questioned that such a vast expanse of warm water, from 35° to 40° N. lat., and 45° to 55° N. lat., has a great effect on the surrounding sea and the adjacent countries. This point, however, has not yet been fully elucidated. It is only ascertained that the region of the Gulf Stream, more than any other part of the ocean, is subject to very violent storms, which are most frequent to the north of 35° and 35° N. lat. Further, it is not improbable that the mild climate by which the countries along the coast of the Atlantic Ocean are so favorably distinguished from those farther inland, is mainly due to the evaporation continually arising from the surface of this immense lake of warm water, just as the high temperature of the Mediterranean is supposed to contribute greatly to the very favorable climate of the countries bordering on that sea.

The Gulf Stream greatly affects the navigation of the Atlantic Ocean. Vessels bound from Europe to North America avoid it as much as possible, because it would create a delay of at least a fortnight if they were to steam it. They therefore either sail to the south or to the north of it, commonly the latter, their course being accelerated as soon as they approach the continent of North America by the counter-currents which run between the Gulf Stream and the coast of North America. These streams are now avoided by vessels returning from the West Indies, as well as by those bound to the Gulf of Mexico, though by following its course they arrive four or five days sooner in Europe than those which avoid it. But it has been found by experience that such vessels suffer a delay of a fortnight when they are not compensated by the gain of a few days. The Gulf Stream, for nearly the whole breadth of the Atlantic, is navigated through stormy latitudes; while it is only necessary to navigate one third of it when another course is chosen, and it is not the less dangerous for being veered. It was the ancient course of the old road, used before the discovery of the Gulf Stream, south of the Bermudas to Corvo.

Besides the Gulf Stream, two other currents in the North Atlantic deserve notice: the Arctic Current off the coast of African or Guinean Current. The Arctic Current, which seems to originate in the extensive masses of ice which surround the North Pole, runs down along the eastern shores of Greenland, whence it carries numerous ice-fields to the northern regions. These ice-fields, from the meridian of 63°, the thermometer shows 8° in summer, and from 41° to 11° above the water of the ocean under the parallel, after having traversed 4° of lat. Hence, to 42° lat. and 43° long., it loses 50° of heat, the thermometer falling from 8° to 0°. From 45° to 50° lat., the thermometer falls from 75° to 72°, still preserving a temperature 8°, 10° above that of the ocean.

Where the Gulf Stream brushes the Great Bank of Newfoundland, the warm water of the current is about 8° higher than that of the ocean, but the water of the ocean exceeds that which covers the Great Bank by 2°. These different degrees of temperature, though existing so near one another, can never attain an equilibrium, because each of them is a mass of water of the same temperature at the same time is permanent. To this difference of temperature, perhaps, the fog on the banks and the coast of Nova Scotia may be attributed.

The whole course of the Gulf Stream, from the Salt Keys to the Azores, amounts to upwards of 3000 nautical miles, in which course it traverses from 15° to 20° of lat. (3° to 48°, or 43°), and diminishes in temperature 13° (from 86° to 73°). According to Major Rennell, it arrives at the Azores in seventy-seven or seventy-eight days. The Gulf Stream, being itself of considerable breadth, and covering besides with the warm water brought down by it large tracts of the sea on both sides of its course, forms a vast expanse of water on the surface of the ocean. It extends from the 30th meridian to the 70th, and sometimes covers in breadth at the east end all the sea from 33° to 45° N. lat., but at its western extremity it contracts to about 160 or 176 nautical miles. It is accordingly 2000 miles in length, and, at a mean, 350 miles in breadth, and thus forms a more extensive surface than the Mediterranean Sea. This body of water contains, besides the stream itself, its counter-currents, offsets, overflowings, and deposits, the cur-rateurs of the coast of California, the California Current, and the Mexican Sea may therefore be considered as a vast caudron for heating water, which is distributed over the central parts of the North Atlantic. It cannot be questioned that such a vast expanse of warm water, from 35° to 40° N. lat., and 45° to 55° N. lat., has a great effect on the surrounding sea and the adjacent countries. This point, however, has not yet been fully elucidated. It is only ascertained that the region of the Gulf Stream, more than any other part of the ocean, is subject to very violent storms, which are most frequent to the north of 35° and 35° N. lat. Further, it is not improbable that the mild climate by which the countries along the coast of the Atlantic Ocean are so favorably distinguished from those farther inland, is mainly due to the evaporation continually arising from the surface of this immense lake of warm water, just as the high temperature of the Mediterranean is supposed to contribute greatly to the very favorable climate of the countries bordering on that sea.

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 Newfoundland in a northerly direction along the Labrador shore, generally preventing all access to land, as high as the mouth of the Hudson Street; then turning to the north-eastward, it forms a bay near the coast of Greenland in about 66° or 67° lat., by suddenly passing away to the eastward. This bay usually formed by the ice at 66° or 67° lat. does not always exist. The quantity of ice on each side of Davis's Strait is often small, and then the continuity of the ice-masses is liable to be broken, so as to allow ships to pass through on one side. It sometimes happens that the open up Davis's Strait to a considerable distance beyond the assigned latitude of 66° or 67°. After doubling Cape Farewell, the most southern promontory of Greenland, the ice moves along the east coast, sometimes enveloping Iceland as it proceeds, until it reaches the island of Jan Mayen. Passing this island on the N.W., but frequently encircling it, the edge of the ice then trends a little more to the eastward, and usually intersects the meridian of Greenland between the 71° and 72° lat. Having reached the long. of 8° or 8½° east, and in some instances as far as 10°, it changes its direction at once, and by suddenly stratching to the north, it forms nearly a right angle, or a kind of promontory. Hence it proceeds northward nearly in the same meridian as far as the 80th parallel, where it joins Hackluyt's Headland, and then passes southward along the coast of Spitzbergen to Cherry Island, which is between Spitzbergen and the North Cape. Here it turns to a more direct course a little to the south of east, until it forms a junction with the ice enclosing the island of Nova Zembla.

That remarkable promontory, midway between Jan Mayen and Cherry Island, formed the southernmost line of ice to the west, and constitutes the line of separation between the east, or whaling, and the west, or sealing, ice, of the fishers; and the deep bay lying to the east of this promontory and the west of Cherry Island, which may be called the Baffin's Bay, forms the only passage through the only pensive track for proceeding to the fishing latitudes northward. When the ice at the entrance of this bay occurs so strong as to comprise as to prevent the approach to the shores of Spitzbergen and the advance northward to lat. 75° and 76°, it is said to be a close ice, and, on the contrary, it is called an open season when an uninterrupted navigation extends along the western coast of Spitzbergen to Hackluyt's Headland.

In an open season, a large channel of water is left between the land and the ice, from 60 to 150 nautical miles in breadth, extending to lat. 79° and 80°, and gradually approaching the coast of Spitzbergen, until it at length effects a junction with the north-western extremity of it, or with Hackluyt's Headland. When the ice is interrupted between Greenland and Spitzbergen, it preserves its continuity to the south of the latter islands, proceeding from thence direct to Cherry Island. In a close season, on the contrary, it forms the barrier to the Baffin's Bight, and joining the south of Spitzbergen, forms a barrier against the fishing stations; yet this barrier is often of a limited extent, and terminates on the coast of Spitzbergen in an open space, either forming or leading to the retreat of the whales. This space, however, is sometimes frozen over until the middle or end of the month of May, but it is not unfrequently free from ice. The barrier which here forms a barrier to the fishers at the entrance of the bay, usually consists of a body of ice, from 60 to 120 miles in circumference, and is generally formed of smaller pieces of ice, called pack ice, often cemented into a continuous field by the intermixture of newly-formed ice. Behind this barrier the sea is commonly open up to 60°. Captain Parry, in his navigation to the North Pole, found it particularly for boats as far as 81° 19' 51"; and, in summer, this open space appears to extend to the north-eastern extremity of Spitzbergen. The barrier of ice which in a close season shuts up the Baffin's Bay, begins in March, and is most frequently in June, and then the sea is rendered freely navigable, from the very extent of the whales to the expansion of the Atlantic.

The ice changes take place in the ice of Hudson's Bay, Baffin's Bay, and Davis's Strait. The navigation of the former bay is first interrupted by ice, generally in the month of November; but on the east side of Davis's Strait it does not usually make its appearance under the land until
the spring. Little progress can be made through the ice into the great bays of Hudson and Baffin until the months of June and July, when a passage to the extremity of each bay is gradually opened. In the months of August and September the ice, lying in a very narrow belt, seems to be the most open, and in the Straits of Davis and Hudson almost entirely dispersed.

The ice met with in the sea between Greenland and Spitzbergen consists commonly of ice-fields, or pieces consisting of many ice-caps and ice-plains, which ice-fields being many leagues in length and covering an area of several hundred square miles. Ice-islands, or ice-bars, are also found; but they are neither so numerous nor so bulky as those of Baffin's Bay, where they attain an immense size: that which was described by Captain Ross and measured by Lieutenant Parry, was agreed in sixty-one fathoms: it was 4169 yards long, 3689 yards broad, and 51 feet high: its weight was calculated to amount to 1,928,397,573 tons.

It is very probable that the ice which is brought down by the Arctic current to the very centre of the North Atlantic, originates in the Bay of Baffin and the Strait of Davis; for it consists almost entirely of ice-bars. When the sun retreats towards the equinox, and the heat of this season becomes too great to maintain the ice in the West Greenland sea, they advance farther to the south and southwest, and are often met with in the Gulf Stream itself, between 56° and 46° W. long., and as far south as 44° N. lat., from the month of April to that of November. Some of them even here are of vast size, and all in a state of rapid thaw. They cool the water sensibly to a distance of 40 or 50 miles around them; and the thermometer sinks sometimes as low as 10 or 10 degrees, from 61° to 45° in 43°, in their neighbourhood.

In the southern hemisphere the ice does not advance to such low latitudes in any part of the sea. Captain Cook did not see any before he had passed the 50th or even the 52nd parallel; and Captain Weddell not before he reached 57½°. Captain Weddell having found it in a rather crowded state between 59° and 60°, to the north and south of that chain of islands which are known under the names of the South Shetlands and New Orkneys group, arrived to the south of 70° lat. in an open sea, where not a particle of ice was to be seen, between 37° and 40° W. long., and even at 74° 15' only a few ice-islands were met with. It therefore appears that the South Atlantic is much less encumbered with ice than the North Atlantic, probably because it is more exposed to southern gales.

Captain Cook observed, that the ice on the Antarctic Pole, in the South Atlantic, extended farther north than in the Pacific. Very few vessels, he says, met with ice going round Cape Horn, and very little is observed below the 44th degree of lat. in the Pacific. But between the meridian of 40° W. and 50° or 60° E., it advances as far north as 51°. He hence inferred the existence of a southern continent. But it is now known that the ice found at this latitude owes its origin to the chains of islands above-mentioned, and to the nearly destroyed ice-bars of the Antarctic Pole, and to the large pieces of ice that lie in the Indian Ocean, and occasionally are thrown out in the warmer season of the year, by Captain Biscoe (Geogr. Jour. &c.), and that to the south of it the sea is open and naturally free of ice.

It may be considered as a peculiarity of the Atlantic Ocean, that a considerable part of its surface is covered with sargasso, or Gulf weed, *fucus nitens*. The region of this weed extends nearly across the whole Ocean, beginning on the east on the 30th meridian, and extending on the west to the Bahama Islands. Its northern limit may be placed at about 28° N. lat. 3° W.; and its southern one at about 30° S. lat., and longitude 40° and 15° W. The region, however, is not equally crowded with weed: the greatest quantities being met with at the eastern and western extremities; on the east, near under the meridian of the islands of Cape Verde and Azores, the most western of the coasts of Africa; between lat. 50° and 60°, and long. 30° and 35° W., it forms first a narrow stripe, but, to the southward, expands to a great width. This region is called by the Portuguese Mar de Borgueses, or weedy sea. The quantity of the weed is really astonishing. It covers, like a mantle, the surface of the sea for many miles, and extends for more than 1200 miles from north to south. The western region extends between the parallels 22° and 28°, about the meridians of 70° and 72°, where the weed also is found in a very crowded state. The central division is less so; and it would even seem that in some parts the sea is only lightly strewn with it, whilst in others it is much more frequent. It is observed that the greatest mass of the weed is found at that part of the Atlantic where the Gulf Stream terminates; and the other great extent, where the counter-current of the Gulf Stream, which runs along its southern border, unites with the Bahama with the drift-current of the North Atlantic. Much of this weed is brought down by the Gulf Stream, and the Gulf of St. Lawrence, and of so great a quantity is so great, that it is reasonably supposed that most of it must be produced in the Atlantic itself at the bottom of the sea.

It is a known fact that the waters of the Atlantic Ocean, in different parts, contain different quantities of salt; and several persons have been at some pains to ascertain the amount of this difference, but no satisfactory results have yet been attained. We know only with certainty that the specific gravity of the sea-water is less near the poles than between the tropics and under the equator; but how great that difference remains uncertain. Captain Scoresby found the specific gravity of the sea-water near the coast of Greenland to be between 1'0325 and 1'0270; and others have observed on the west side of the Atlantic, by the equator even 1'0578; but the latter observation is rendered doubtful by others, which gave a different result.

Another remarkable fact, which has been better ascertained, is the small salt of the sea of the Baltic. The water of the Baltic and Mediterranean Sea is somewhat more salt than the ocean; to the east of the Straits of Gibraltar, the specific gravity of the sea-water is 1'0338; whilst between Cape St. Vincent and Cape Cavini it was only found to be 1'0324. As to the Banks and Fisheries in the Atlantic, see the articles *Newfoundland*, *Bermine Fishery*, *Wales Fishery*, &c.

(Humboldt's Travels; Rennell's Investigation of the Currents in the Atlantic Ocean; Account of the Arctic Regions by Scoresby; Voyages of Cook, Ross, Parry, Scoresby, and Weddell.)

**ATLAS** is the historical and geographical name of an extensive mountain-system, which covers, with its ranges, branches, and table-lands, the north-western part of Africa. The lower and southern parts, between 27° and 20° N. lat. from Cape Nun on the Atlantic Ocean to the Gulf of Canes, or the Little Syrtis, opposite the island of Jerba; the northern is formed by the southern coast of the Mediterranean Sea, and extends from the Straits of Gibraltar and Cape Bon, lying E.N. E. of the town of Tripoli, towards the east, and is separated from the western by its offsets and terraces along the Atlantic Ocean extending upwards of 600 geographical miles, and is partly low and sandy, and partly rocky, but does not rise to a great height, except at Cape Geer and a few isolated places of small extent. The coast along the Mediterranean between Cape Spartel and Cape Bon is generally rocky and high; in many places the elevation is very great, and it continues for a considerable extent. Between Cape Bon and the Gulf of Canes it forms a vast plain; and the neighbourhood is low, and it does not rise here to a great height, and is in many places interrupted by a flat sandy shore. From Cape Veda to the island of Jerba, along the Lesser Syrtis, it is extremely low and sandy.

The southern boundary of the Atlas is formed by the Great African Desert, or the Sahara: from which, as far as we know, it is separated by low sandy hills, which have been blown up by the winds, and which gradually encroach on the great mountain-systems, and the Atlas ranges terminate on this side. On the west of the Gulf of Cadiz, off the Nofucus Mountains, which are the last offset of the Atlas towards the west, are connected with the Gharhuan Mountains, which extend towards the S.E. through the kingdom of Tripoli, but do not extend westwards as not belonging to the system of the Atlas Mountains.

Within the boundary here assigned to these mountains is comprehended the whole of the empire of Fez and Marruecos, and that of the regency of Algiers, as well as the
greatest part of the regency of Tunis. The area of the
three countries may amount to upwards of 560,000 square miles, in
which case the Atlas system would cover a space not
much inferior to France, Germany, and Italy, taken together.
This vast extent of country, however, does not consist
entirely of deserts, but includes part of a considerable
plain, which, especially towards the northern
coast, is of considerable extent, and even amongst the
mountains ranges along the Mediterranean there are
many extensive plains.

The principal chain, by which we mean to indicate the
highest ranges of the whole system, does not run parallel to
the whole mountain-region from west to east, but forms
rather an irregular and winding diagonal, whose principal
direction is west-south-west, or rather south-south-
west, to the coasts of the Mediterranean Sea and
the shores of the Atlantic Ocean with Cape Gerir, which rises
nearly perpendicularly out of the sea to a great elevation,
and extends nearly due east to the meridian of the city of
Marocco, where it turns to the E.N.E., in which direction
it continues to the south coast, the Wad Oum-er-rbah (Morbyen),
Muluia or Muluvia, (the ancient Molochia, or Mol Bucha), Ziz or Tellhit, and Draha (Dras).

At this place there seems to exist an extensive mountain
range, which contains, as far as we know, the highest summits
of the whole system. The greatest range stretches hence
nearly due north, but soon declines somewhat to the east,
in which direction it approaches the Mediterranean. But
these and the ranges westwards near Melilla, it is not the principal range; for this,
which is at a considerable distance from the sea, seems to
decline to the east, and to traverse the almost unknown region
designated by the name of the Desert of Angad, through which
there can be but little information as to the height or shape
of the mountains, and Algiers passes. The chain, up to this point, is called
by the Europeans Greater Atlas; by the natives, Derar, or Jebel Tedri (Adila). The principal chain again appears
in the town of Algiers, where the highest part bears the
name of Wn-nan-sheere, and from this point the
mountains continue on the banks of the Shekil, the valley of which river probably interrupts the
continuity of the range. To the east of it, however, it rises
again, and forms, south-east of the town of Algiers, the
highest known range, the Taur or Taur Mountain. Up to this point
the range runs nearly parallel with the sea-coast, at a
distance of from thirty to forty miles. But hence it declines somewhat
towards the S.E., and takes the names of Mountains
of Wnunnough and of I ala. Further to the east, at about
5° E. long., it is called the Aures Mountains; and here it begins to approach the coast again, entering, under the
name of the Mountains of Tifers or Tifissh, the territory of
Tunis; it terminates with Cape Blanco and Cape Zibech, near
the mouth of the river Oum-er-rbah.

Little is known respecting the height of these mountains.
Only one summit has been measured, the Militain, twenty-seven
miles S.E. of the town of Marocco, which is free from
snow only once in about every twenty years, and, according
to the measurement of Lieutenant Washington, rises to
11,496 feet above the level of the sea. It is further agreed,
that the highest summits of the whole range are in the
mountain-knot, near the sources of the rivers Oum-er-rbah and
Muluvia, where a considerable part of the chain is always
covered with snow. These summits are estimated by Ali Bay to rise 13,200 feet above the sea, but Graber of
Henske thinks that Mount Hestet attains the highest
elevation, being upwards of 11,650 feet, and that the range
in this general direction is the Alperg Mountains described
along the Mediterranean, which commonly receive the
general name of Lesser Atlas, are much lower. Shaw states
that those of Wn-nan-sheere and Jurjura are the highest,
and covered with snow a considerable part of the year; and
the French naturalist, Desfontaines, assigned to them a height
of 7,900 feet. Farther to the east they decrease considerably
in elevation.

We observe, with respect to the principal chain, that up
to the point where it enters the desert of Angad, it forms
the line of separation between the Atlantic Ocean and those
that run north and south into the Medi-
terranean Sea, or the Sahara. The Lesser Atlas, however,
does not form such a line of separation between water-
sheds as the previous part of the chain. This important part, in
which enter the Mediterranean rises to the south of it in a
lateral chain, which runs nearly parallel to the principal,
and makes their way through the latter.

The best known of the lateral chains is that which may
be considered as the western continuation of the Lesser
Atlas; it probably separates from the principal range where
it enters the desert of Angad, and runs along the shores
of the Mediterranean Sea at a distance of about thirty
miles, being a mountain range of about 11,000 feet.

The cha
t is thought to rise only to about 23,000 feet above the sea
in the highest part, and is the only one which traverses
the exposed country rising to a great elevation.

The numerous branches which lie to the south of the
Lesser Atlas, and cover the country between it and the
Great Desert, are very imperfectly known as to their height,
extent, and connexion with one another. It would seem
that the most considerable of these large rivers (the Shekil, Seifoune, and Mejendra) take their origin,
and which contains the Zacker Mountains, is the
highest, and that they lower as they approach the Sahara.

This fact we may infer from the statement of Bilhan,
who, however, observes, that these mountains do not attain
the height of those of England, rising at an average only to
four, five, or six hundred yards of perpendicular elevation.

One branch separating from the principal chain and ex-
tending towards the Sahara, runs south-west, and terminates
at Cape Nun. It divides the country about the rivers Suse
and Wed Messa, which flow into the Atlantic from the
region drained by the river Draha, which is absorbed in
the desert. It is not very known, but probably rises only to a moderate height.

As the Atlas Mountains have been traversed by very few
Europeans, and have never been subjected to the ex-
atual of naturalists, their geology is nearly unknown.
There is, however, some information respecting them,
that fact, that the lower skirts of the ridges are formed by
secondary limestone, and that this formation probably
covers the mountains to an elevation of three or four
thousand feet. What constitutes the structure of the
mountains is unknown. No traces of volcanic activity
have yet been discovered. As to the more striking features
of external form, it is generally agreed, that they differ
considerably from the Alps. The Atlas does not exhibit
the characteristic features, and stands out in a more
pronounced manner; everywhere shows a decided tendency to extensive table-
lands, broad ridges, and rounded summits. On each side of its declivity the range supports two, three, or more
large table-lands, at different elevations above the level of
the sea, and separated from one another by rather steep slopes.
The summit of the range, however, is formed by great masses of rock which are generally inaccessible, or nearly
so; in many places they rise perpendicularly. In a few
places these summits are rock pavements, through which the mountain passes lead from one side to the other.
Jackson states that only two such passes exist between Marocco and the province of Suse, and he calls them Bebavan and Belavin; the difficulty of
passing through the range, is heightened by the fact that the
majority of the provinces situated to the south and south-east of the principal chain precarious to the emperor of Marocco. This
description applies more particularly to the Greater Atlas;
but in part also to the Lesser Atlas: Shaw states that the
mountains in Algiers generally rise with a gentle acclivity,
and are covered with a succession of groves and ranges of
fruit and forest trees, and that only occasionally a rocky
precipice of more difficult access occurs. Yet he notices in
some parts a number of steep and precipitous passes, as the mountain-pass of Beevan, through which the
great road between the town of Algiers and of Constantina
lies. It would seem that this peculiarity in the form of
these mountains offers one of the greatest difficulties which
the French have encountered, and are still encountering, in
subjecting the territories of Algiers.

As the Atlas Mountains, in some places, rise above the
line of perpetual congelation, and in many others approach
this line; and, at the same time, the southern declivity
embraces the important town of Lixus, and the
Great African Desert, where the greatest quantity of heat
developed on the surface of the globe, it is of course to be
presumed that on the sides of the Atlas the greatest extremes
of temperature are found. The inhabitants who desires
of this kind has yet been made. We only learn from travellers that on the low plains at the southern foot
of the mountain, and within its lower ranges, the date-

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palms cover extensive tracts; that the highest lands abound in gum trees, almonds, olives, and other productions of the hotter countries; that the lower table-lands produce apples, pears, cherries, walnuts, apricots, and other fruits, common to the southern countries of Europe; and that, proceeding higher up the river, the plains are covered with hay fields and meadows, an immense sere, with a species of oak, called the beludie, the acorn of which is used as food, and is preferred to the Spanish chestnut, and with ferns, elms, mountain-ash, and several species of juniper. Higher up large forests of fire trees and yew prevail.

The metallic richness of these mountains is better known than the botany. Rich mines of different kinds exist in that lateral range which separates the province of Tunis from the country of the river Drera; these abound, especially in iron, copper, and lead. Kutemwa, a district east of Tarudant, contains rich mines of lead and brimstone; and salt-pans of a superior quality abound in the neighbourhood of Tarudant itself. About fifty or sixty miles south-west of that town are mines of iron of a very malleable quality, equal to that of Basay, in Spain. At Elata, in the same ridge of mountains, are several rich mines of copper, some of which are impregnated with gold; and in the same place there is also a rich silver mine. Mines of antimony and lead are likewise found in Suse. In the bed of the river Wad Medessa, particles of silver may be collected. In other parts, as in the Lesser Atlas, mines of iron, lead, and sulphur are found. Salt is collected in many parts of the same mountain system. These mountains are inhabited by lions of the finest kind and the largest size; and they abound in antelopes, monkeys of different species, and in porcupines: but their soil is not very well cultivated.

Having taken a general view of the principal features of this extensive range, we shall briefly describe the nature of the countries which may be considered as included in its bounds.

The countries to the south of the principal range, and west of the meridian of London, may be divided into two regions, one of which contains the provinces of Tafilalt and Draha, and the other the Susse. The first belongs to that region which is called Bokhodj, in the Arabic tongue, Belad el Jered (land of dates), and extends along the southern declivity of the whole system. It consists of gently-inclined plains, which spread to the foot of the mountains, but do not produce any thing adapted to the maintenance of human life; it is only on the banks of the few rivers, whose water is strongly impregnated with salt, and which lie themselves in the sands of the Sahara, that large groves of date-palms are planted; the fruit of the date, with dates, horses, and cattle, are the sole wealth of the few inhabitants in this region.

The provinces of Susse is divided from that of Draha by a range of mountains, and displays quite a different character. It is well watered, and abounds in every sort of agricultural produce, and especially in dates; its plantations of dates are numerous, and those of olives still more extensive. The country may be considered as a plain with some small hills dispersed upon it.

The country included by the Greater Atlas, by that lateral branch which terminates on the Strait of Gibraltar, and by the Atlantic Ocean, may be considered as a plain, which exhibits at its southern and northern extremities extensive level and low countries; its centre, between the rivers Beni Bernard and Ghorbi, is occupied by an elevated table-land, which descends in regular steps to the seashore. The distinguishing features of these three divisions will be given under the article MAROCCO.

The countries to the east of the principal chain display a much greater diversity in their nature. They may be divided into two parts, of which the northern comprehends the Tafilalet, or the land adapted to agriculture; the southern is partly comprehended under the name of Belad el Jered, though in a greater, it is termed by the natives the Sahara, which name cannot be applied to it in the sense in which that term is understood in Europe.

The Tafilalet comprehends all the countries which are watered by the river falling into the Mediterranean. Its northern branch contains the two important rivers Littau and Ouezzane, which both flows into the sea at Cadiz. The countries which are watered by the river flowing into the Sahara are the provinces of the Garg, and presents only a succession of mountains, deserts, and narrow valleys, without any plain of considerable extent or surface; except between the Capes of Mess Accon and Cape Matia, on both sides

and to the south of the town of Algeciras, where the country exhibits only moderate hills rising on a rather level country. But to the south of the Lesser Atlas, and between it and the mountains in which the large rivers take their origin, the country extends in large level plains along both sides of the valley, the river running over marshy grounds, covered with all sorts of plants, some of which are particularly adapted to the cultivation and horticulture. Such are those of Hijjajita and Mestijjah, and the country about the large town of Constantine, as well as that of Mejerda, in Tunis, and many others: they form the most fertile and best cultivated part of these countries.

To the south of the Tafilalet lies a country, which, in many respects, may be considered as one of the most remarkable on the surface of the globe. It consists of a succession of hills and plains, entirely covered with a level soil, which is watered by the lake in their hollows—the receptacle of the waters that flow down from the adjacent mountains. It would seem that such valleys extend from the low shores of the Lesser Syrtia, through the whole region, up to the chain of the Greater Atlas; and doubtless they rise in height as they proceed toward the west. The most eastern of these closed valleys is that of the lake called Shikhab el Loeedah (properly Sabkhat al-Audah, i.e. the salt marshes of the valleys), the Triumons of the ancient geographers (the Lake of the Marsh), which is separated from the Lesser Syrtia by a sandy tract of apparently no great elevation, and to the south east of which, at no great distance, are the Nofuss or Nisfous Mountains, the most eastern branch of the Atlas system. The whole tract is traversed by a river, which in some parts is lost altogether in a collection of water, there being several dry tracts interspersed all over it, which look like so many islands. In the dry season the water entirely disappears, leaving only the bottom of the lake visible.

Having taken a general view of the principal features of this extensive range, we shall briefly describe the nature of the countries which may be considered as included in it in its bounds.

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but still within the southern lower ranges of the Atlas system, lies a long valley without any water-source, which seems to extend up to the foot of the Greater Atlas. The greatest part of this valley is entirely unknown to us. Shaw has given some information on the eastern portion of it, called, Wad marq, which is covered with a great surface of aerated, and of another branch of it, in which the town of Warghoul is found. No river traverses this country; but by digging wells to the depth of a hundred and sometimes two hundred fathoms, a plentiful stream is always found. These wells are depressions of sand and gravel, a flaky stone-like slate is reached by the workmen, under which the sea underground, as it is called, lies concealed. No sooner is this stone broken through, than it is followed by a great rush of water. These seem to be such wells as are necessary to be provided with in a country without rivers. The further continuation of this valley to the west up to the Atlas is entirely unknown to us, and its existence is only proved by the caravans, which depart from Fez and Marrakesh for Mekna, and choose this country for the usual road of their journeys; from which we may infer that no ranges of considerable height are encountered in those parts. Warghoul, Fez Fighaig, and Akasa Sarfa are named as the principal stations of the caravans in this valley. (Shaw's Travels; January 1865, p. 330.)

"The native name of these mountains, according to Pliny (v. i.) and Strabo, was Duris; the reader may see in this excellent writer this name. It does not appear that the ancient geographers had a very complete knowledge of the Atlas; but still the Romans probably knew more about it than we yet do, having colonized many parts of the country which these mountains and their branches occupy. As far as we can collect, it was only the highest and western part, in the kingdom of Marrakesh, to which they applied the term Atlas; and they do not seem to have extended the name to the high lands to the east so far as the Atlas at Fez. Pliny, who was contemporary with Pliny, was the first Roman commander who crossed the Atlas. His report of their great height agreed with all that had up to that time been said of them; he found the lower parts of the range covered with trees and bushes, and the summits with deep snow in the midst of summer."

The text continues discussing the geography and climate of the Atlas Mountains, mentioning the presence of caravans and the conditions of the land. It also touches on the influence of the Atlas on the local culture and economy, though the page does not provide explicit details related to the question.
The preceding table was deduced from various observations. It will serve to show how far the temperature of elevated regions on the earth agrees with that of the same height in the atmosphere. From the preceding, the first column is the height of the land above the level of the sea (in metres); the second, the mean temperature (centigrade) at and near the equator; the third, the same at about 45° of latitude. The thermometer used is the centigrade; (+) means above, and (−) below, the freezing point.

From the preceding table, it appears that at the equator, on the average of 4872 metres, a rise of 187 metres gives a decrease of 1°, or 1° centigrade, and a rise of 1° centigrade produces a fall of 1°. With the same height of elevation, an elevation of 214° produces a fall of 1°; but from 2923° to 4872°, an elevation of 152° does the same.

The argument in favour of the finite extent of the atmosphere, derived from the character of the atmosphere in the higher regions, is not weakened by the fact that the earth is not homogeneous in its constitution. If we suppose an elevation of 200 yards to produce a fall of 1° of Fahrenheit's thermometer (which, as we have seen, is likely to fall short of the truth), that is, to give the higher regions of the atmosphere a higher temperature than they really have; it follows, that at a height of forty miles above the earth, the temperature of the air must be 350° of Fahrenheit below that of the sea, or certainly more than 300° below the freezing point.

The strongest argument in favour of this view is the following. If we were to suppose homogeneous air, it would be impossible for it to exist in that state at this low temperature, but would become liquid: and though no gas has yet been rendered liquid by reduction of temperature, yet several have been reduced to that state by cold and pressure united.

If, then, we suppose the atmosphere of finite extent, its form must be nearly that of an oblate spheroid, the lesser axis passing through the poles of the earth; at the same time the action of the sun and moon must produce certain small atmospheric tides; and the tides of the sea, which are produced by the action of the sun and moon, under the influence of the rotation of the earth, must produce periodical alterations of form in the latter also.

If any such exist, they may be detected by the barometer; for, ceteris paribus, any increase of the height of the superincumbent column of air must be accompanied by a small increase of the barometer, or a balancing of the column of mercury.

Laplace was the first who examined this curious branch of the subject. He showed by analysis that the attraction of the sun and moon could produce no permanent effect upon the currents of the atmosphere; for instance, such as the trade-winds.

He also showed that the diurnal oscillations caused by the above-mentioned attractions would only produce a very small effect upon the barometer, in fact, less than one millimetre; and that the number of oscillations in one day would be about 24. The reduction of a large number of observations gave, at first, 0.065 of a millimetre for the quantity in question; those of another set gave 0.018; from which Laplace concluded, taking into account the smallness of the quantity and the degree of probability which could be attached to results of different, that the sensible existence of the atmosphere tides was doubtful.

In the meanwhile, however, the diurnal variation of the barometer has been completely established by observations made in several different places. The laws and quantity of this oscillation appear to vary so much with latitude, climate, and other circumstances, that no positive conclusion can yet be drawn, either to the exclusion of atmospheric tides, properly so called, or the adoption of any other cause in connection with them. Professor Forbes, of the British Association, p. 319, has discussed all the observations, and has given a formula which represents them tolerably well.

The average pressure of the atmosphere is found to be the same, or very nearly so, at any one place from year to year.
height ascended. The method of doing this will be explained in the article Heights (Measurement of); we notice it here in order to mention a circumstance which must be observed, that our knowledge of the mass of the atmosphere has not been overstated. In order to construct the formula, it is necessary to take into account the diminution of the weight of the air, not only from its evaporation, but also from its lightness being greater nearer the earth,—the diminution of the effective weight of the atmosphere, and, therefore, the diminution of the elastic force, as well as the effective weight of the air; and the change of temperature,—the alteration of density in the mercury itself, arising from the alteration of temperature,—and to use the formula in different latitudes, the variation of the effective weight of the air. The process of finding the temperature is a little lengthy; but it is a good test of our knowledge of the height of the atmosphere, and also of the process; and as a verification, recourse is had to the comparison of heights measured by the barometer, and also by the processes of trigonometry. It is thus found that the co-efficients of the air, when deduced from theory alone, is 1832746, appears from a number of observations made trigonometrically to be 183366, differing from the former only by about its 10,000th part. This shows the effect of temperature to be sufficiently well taken into account, for such heights as we can measure, by the preceding position.

In the article Air some reasons were shown for supposing that its component parts were not united chemically, but only mixed. This opinion, which is now almost universally adopted, has given rise to the use of notions on the constitution of the atmosphere, differing entirely from those of all chemists down to the present day. A law is found to prevail in the mixture of gases and vapours, as universal as the one described in the article Air, relative to the pressure of the atmosphere—namely, that two gases in a state of mixture exercise no influence one upon the other, except communication of temperature, but that each is exposed in exactly the same manner as it would be if the other were not present. This is found, entirely contrary to all previous notions, that no pressure of dry air upon water exerts the least influence in preventing the formation of steam, which goes on exactly as if the space above were a vacuum, and continues until further evaporation is stopped by the pressure of the steam already created. It is found that no pressure of one gas can confine another in water; but that a bottle partly full of water, the gas confined in the water will escape to the surface and distribute itself in precisely the same way as if the other gas were not present. By this it is not meant that the action commonly called mechanical cannot take place, or that a stream of hydrogen would not trouble the air; but only that the permanent settlement of a gas in the air is not affected by the presence of another, so long as no chemical action is excited. From this principle, Mr. Dalton (Phil. Trans., 1828), taking into consideration the presumptions which exist against the chemical union of the ingredients of the atmosphere, infers that the atmosphere does not consist of a compound air, but that the nitrogen atmosphere is higher than the oxygen atmosphere. In fact, if there be no chemical union, the above law of the mixture of gases requires us to allow that each gas is an atmosphere independent of the other, and that the two are most probably of unequal heights. From some considerations, into which we cannot here enter, Mr. Dalton thinks that the actual pressures exerted by the oxygen and nitrogen are in the proportions of 13 to 46 of the total; and concludes that the oxygen atmosphere extends to 36 miles in height, that of nitrogen to 54 miles, that of carbonic acid to 10 miles, and that of aequos vapour to 80 miles. It must be observed that the pressure of the nitrogen and the carbonic acid of the atmosphere are very variable, that there is not the same quantity by night as by day, in moist weather as in dry; and that the higher strata of the atmosphere contain more of it than the lower, which may arise from rapid evaporation by the earth. Against the hypothesis just described, it might perhaps be asserted that the air which Gay-Lussac brought down from a height of more than four miles was not found to differ from that of the earth’s upper strata, which would be the case if the oxygen atmosphere diminished in density more than in proportion to the diminution of that of the nitrogen, or
vice versa. We do not know whether the experiment of M. Gay-Lussac was made, or even intended to be made, with that degree of precision to satisfy its hypothetical views. The theory of Mr. Dalton's theory: but in any case it is an experiment which it is very desirable to repeat.

The total quantity of the atmosphere (as the mean height of the barometer at Paris hold good for all other places) is a little less than 7 miles, and this proportion is probably made up of nearly all the air on earth, supposing the mean density of the latter to be five and a half times that of water. (Poison, Micaciiique, 2d edit. vol. ii. p. 610.)

For the colour of the atmosphere, see SKY. For the quantity of moisture contained in it, see HYDROLOGY.

For the history of atmospheric researches, see the following names, HERON, CRESIBUS, GALLERIO, TORRICELLI, PASCAL, FLORENCE (Academy of), BOYLE, MARIOTTE, PAUSSON, BLACK, DESLAURES, CAYRENDI, &c.

The actual constitution of the atmosphere, whether composed of molecules exerting a repulsive force upon each other or not, must remain unsettled until some mathematical hypothesis can be found which shall satisfy all observed phenomena. That probabilities are at present all on the side of the molecular or atomic hypothesis, is pretty generally admitted; and the repulsion of the several parts of air is a fact of every-day experience. Newton entered upon the subject with a heretical atomism, and said that if the constitution of the atmosphere were atomic, and if the force exerted by each particle extend only to those nearest to it, and be either nothing or inconsiderable as to all others, then that the observed proportionality of the elasticity of the different strata of air has no hypothesis except that of a repulsive force inversely proportional to the distances of the particles from each other; that is, which becomes double when the distance is halved, and so on. But in the scholium to the same proposition, he takes notice of the imperfection of the hypothesis, and describes his theory as a mathematical 'handle' to induce philosophers to consider the subject further. The molecular theory, on the supposition that every particle repels all the rest, or, which is the same, if each atom be considered a sphere, and repulsion, is beyond the reach of the present state of mathematical analysis.

For the state of atmospheric knowledge up to 1868, see Robertson, General View of the Natural History of the Atmosphere, Edinburgh, 1868; from thence to 1822, see Daniel's Meteorological Essays, London, 1822; and for an account of what has been lately done, with further references, see Professor Forbes's Report on Meteorology, in the Reports of the British Association, London, 1832.

ATOMIC, or ATOLLON, is a name given by the natives of the Maldives to the detached coral formations of which their Archipelago is composed. They are commonly of the form of a small solid island, or ring, from fifteen to thirty miles in diameter, and rise perpendicularly from an unathomable depth. The openings which occasionally occur in these reefs afford passages for vessels, and safe anchorage is found in many within the circumscribing wall; the space thus included is often interspersed with islands. The principal of these islands, however, are always situated on the outer reef; they abound in coral-reef, and are long and narrow. In short, they are very similar to the coral formations of the South Seas, though generally on a larger scale; the name ATOLL is exclusively used among the Maldive.

ATOM, or ATOMS (Johns), the ultimate and indivisible elements of matter, from a Greek compound, signifying undividable. Anaxagoras, the ancient philosopher of 425 B.C., imagined the number of elements to be nearly as it is absolutely infinite, and that the ultimate atoms composing every substance were of the order of 100,000. [See Anaxagoras.]

Leucipus, a philosopher of Athens, lived about 440 B.C.; he was the first to think of the atomic theory. His principles were taken up by Democritus, in his Conomogey; and afterwards by Epicurus, whose system of atomic theory is chiefly owing. The following account of this doctrine is copied from Dr. Good's Book of Nature, and is a clear and concise sketch of the theory contained in the writings of Epicurus and his followers. The atomic or Epicurean philosophy of Epicurus, in its mere physical contemplation, allows of nothing but matter and space, which are equally infinite and unbounded, which have equally existed from all eternity, and from different combinations of which every visible form is created. These elements, which are infinite in number, are hard and unyielding; they are indivisible; other: for whatever matter is, that space is the reverse of; and whatever space is, matter is the contrary to. The actually solid parts of all bodies, therefore, are matter; there are no pores in them; and the pores, together with solid, but an intermixture of solidity and pore, are space and matter combined. Anterior to the formation of the universe space and matter existed uncombined, or in their pure and elementary state. Space, in its elementary state, is absolute; and perfect space is it which is in the indecomposity and incommensurably minute seeds or atoms so small, that the corpuscles of vapour, light, and heat are compounds of them; and so solid, that they cannot possibly be broken or abraded by any concussion or violence whatever. The express figure of these primary atoms is various: there are round, square, pointed, jagged, as well as many other shapes. These shapes, however, are not diversified to infinity; but the atoms themselves of each existent shape are infinite or numberless. The matter of all motion is produced by the lesser or greater powers of motion. Under the old school of Democritism, the hypothesis of perpetual motions hence produced were of two kinds: a descending motion, from the natural gravity of the atoms; and a rebounding motion, from collision and mutual clash. From these two motions, and the compounding of figures to which they did not appear competent, and which were not accounted for under the old system, Epicurus supposed that some atoms were occasionally possessed of a third, by which, in some very small degree, they descended in an oblique or circular direction, deviating from the common and right line anomalously; and in this respect resembling the oscillations of the magnetic needle.

These infinite groups of atoms, flying through all time and space in all directions of alternate motion, have interchangeably tried and exhibited every possible mode of renounter; sometimes repelled from each other by concussion, and sometimes adhering to each other from their own juggled or pointed construction, or from the casual interstices which two or more connected atoms must produce, and which may be just adapted to those of other figures, as globular, oval, or square. Hence the origin of compound and visible bodies; hence the origin of large masses of matter; hence, eventually, the origin of the world itself. When these primary atoms are closely compacted, and but little vacuity or space lies between, they produce those kinds of substance which we denominate solids, as stones and metals; when they are loose and disjunct, and have a large quantity of space between, you have gases or starchy bodies. When these atoms are very rare and dispersed, you exhibit bodies of lax texture, as wool, water, and vapour.

The world, thus generated, is perpetually sustained by the application of fresh titules of elementary atoms, flying, in a perpetual communication, through all the infinity of space, invisible from their minuteness, and occupying the portion of those that are as perpetually flying off. Yet nothing is eternal or immutably but these elementary seeds or atoms themselves. The compound forms of matter are continually decomposing and dissolving in their original corpuscles, and to this there is no exception: minerals, vegetables, and animals, in this respect, are all alike, when they lose their present make, perishing for ever, and new combinations proceeding from the matter into which they disperse. But the world itself is a compound thing, not an organized being; sustained and nourished, like organized beings, from the material substratum that floats through the void of infinity. The world itself must, therefore, in the same fashion perish; it had a beginning, and it will have an end. Its present state will be destroyed, and that by the decay of its original, its elementary atoms; and new worlds will arise from its destruction.

Space is infinite, material atoms are infinite, but the world is not. If the void of space is the only material system that exists. The cause that has produced this visible system is competent to produce others: it has been acting perpetually from all eternity; and there are other worlds, and other systems of worlds, existing around us. During the most flourishing periods of the Greek phi
ATOMIC THEOREY, in chemistry, sometimes termed the doctrine of definite proportions. This very important theory, founded on well-ascertained facts, has bestowed on modern chemistry an almost mathematical degree of precision. The hypothetical, which is to be distinguished from the experimental part of the subject, supposes that chemical compounds result from the combination of the ultimate atoms of the elements distinguished and determined by experiment, and the fact serves as the basis of the theory, that a compound body, when pure, always contains the same proportions of its constituents: thus calcareous spar, and the pure part of marl, chalk, and limestones, consist of carbonate of lime and carbonic acid; the same proportions of carbonic acid and lime; the carbonic acid always contains the same quantity of carbon and oxygen, and the lime the same proportions of calcium and oxygen. The same law holds for all simple and compound oxides, sulphures, and salts, and indeed as to all chemical compounds whatever, whether presented to us by nature or formed by art: this is a simple statement of the fundamental facts upon which the superstructure of the atomic theory has been reared.

Before we proceed to detail the minutiae of the theory, it will be proper to give a sketch, though a slight one, of the principal discoveries connected with the subject. The earliest experiments which could have served as a basis for the atomic theory are those of Wenzel, a German chemist, who published, in 1777, a work On the Affinities of Bodies; the experiments detailed in it, though neglected at the time, are now acknowledged to possess a very considerable degree of accuracy. The author showed that when any two neutral salts dissolved in equal parts of water, the rays which transmitted the light through each salt, and each of its compounds were exactly neutral. ‘The very attempt,’ remarks Dr. Thomson, ‘to analyze the salts was an acknowledgment that bodies united with each other in definite proportions, in number as well as in their powers, and that in this line of research, so long followed out, would have ultimately led to the doctrine of atoms.’ (History of Chemistry, vol. ii. p. 278.)

With reference to this subject, it is observed by Sir H. Davy, that there may be found in the works of Dr. Bryan Huggins and Mr. W. Huggins, and of Professor Ritter, hints or conclusions bearing directly on this doctrine. Dr. Bryan Huggins, in his Experiments and Observations relating to Acetic Acid, fixable Air, dense inflammable Air, &c. &c., published in 1787, united with each other in limited proportions only; and this depended upon the combination of their particles or atoms, with the matter of fire which surrounds them as an atmosphere, and makes them repulsive of each other; and he distinguishes between simple elastic fluids, as composed of particles of the same kind, and compound elastic fluids, as consisting of two or more particles combined, in which he calls molecules, definite in quantity themselves, and surrounded by other proportions of heat. Dr. Bryan Huggins’s notions have, I believe, been, by the writers on the atomic theory; Mr. William Higgins’s claims have, on the contrary, often been brought forward. Yet, when it is recollected that this gentleman was a pupil and a friend of his, he will hardly be considered as one of those who, called the Comparative View, was published some years after the treaties I have just quoted, and that his notions are almost identical (with the addition of this circumstance, that he mentions certain elastic fluids, such as the compounds of azote, consisting of one, two, three, four, and five proportion of oxygen to one of carbon), it is difficult not to allow the merits of prior conception, as well as of very ingenious illustration, to the older writer. (Discourses before the Royal Society, 1804.)

In justice, however, to Mr. Higgins, it must be admitted that his views were much more extended than those of Dr. Higgins; for it appears that he entertained precisely the same notion of the composition and atomic constitution of bodies as that which is called the New Theory, and it is of that which he says, in his Comparative View of the Phlogistic and Antiphlogistic Theories, published in 1790, p. 37, he says, ‘As two cubic inches of light inflammable air require but one of dephlogisticated air to conserve them, we must suppose that they are composed of the same atom of fire; and that the difference of their specific gravity depends chiefly on the size of their ultimate particles; or we must suppose that the ultimate particles of light inflammable air require two or three, or more, of dephlogisticated air to sustain them. If this latter were the case, we might produce water in an intermediate state, as well as the vitriolic or the nitrous acid, which appears to be impossible; for in whatever proportion we mix our airs, or under whatsoever circumstances we combine them, the result is invariably the same. The mixture may be observed with respect to the decomposition of water. Hence we may justly conclude, that water is composed of molecules formed by the union of a simple particle of dephlogisticated air, or of oxygen, with a particle of cold, dry, and rarefied air, and that they are incapable of uniting to a third particle of either of their constituent principles.

It is a remarkable circumstance, that although Mr. Higgins’s view of the atomic constitution of the five compound elements of the earth, as the earth is commonly admitted, he does not state their composition; and his idea of the comparative atomic constitution of sulphur and sulphuric acid is decidedly erroneous. Indeed, as remarked by Sir H. Davy in the discourse above quoted, ‘neither of the parties attempted to express the quantities in which bodies combine by numbers.

In 1792, Richter, a Prussian chemist, published a work called Elements of Stoichiometry; or the Mathematics of Chemical Composition. He was almost in the same way as Wenzel had previously done, but extended it very considerably; he endeavored to determine the capacity of saturation of each acid and base, and to indicate by numbers the weights which mutually saturate each other. He published a table of these, but though the attempt was new and exceedingly ingenious, the results were far from accurate.

The discoveries of Proust, a French chemist who was professor of chemistry at Madrid, are well worth considering, for it is that which is even now generally admitted, that metals unite only with definite proportions of oxygen, and that the same law existed with sulphur and the metals, and that these might be expressed more accurately by numbers, a view which was followed out by Berthollet, but their accuracy is now generally admitted.

In the year 1803, Mr. (now Dr.) Dalton, of Manchester, communicated to the Literary and Philosophical Society of Manchester an essay containing an outline of his speculations on the subject of the composition of bodies (Manchester Memoirs, second series, vol. i. p. 286). The following year he explained his notions on the subject to Dr. Thomson, and in 1808 he published the first volume of his Elements of Chemical Philosophy, in which he gave an outline of his idea of the constitution of matter, and this without any acquaintance with what had been previously done on the subject by Higgins.

Dr. Dalton was unquestionably the first who laid down clearly and numerically, the doctrine of multiples, and endeavored to express by simple numbers the weights of bodies believed to be elementary. He announced it as a general rule, that when only one combination of a body can be obtained, it must be a binary one, unless some cause appear to the contrary. Consistently with this law, and correctly at the time it was written, Dr. Dalton regarded water as a binary compound of hydrogen and oxygen, and the relative weights since corrected are as 18 to 8. As water consists of an atom of hydrogen and an atom of oxygen, either of these elements may be selected as unity, and, in fact, as we shall hereafter notice, both have been occasionally employed as such. Dalton fixed on hydrogen, because it is, that which unites with others in the smallest proportion; thus,
them, we have water composed of one of hydrogen by weight, or one atom, and eight of oxygen by weight, or one atom, and in all cases an atom of hydrogen being represented by 1, an atom of oxygen will be represented by 8; and these being the atomic weight of the elements, that of the compound will be obtained by adding them together, thus:

Hydrogen 1 atom = 1
Oxygen 1 atom = 8
Water 1 atom = 9

The weight, then, of a compound atom is obtained by adding together the atomic weights of its constituents. Although many elementary bodies unite with hydrogen, there are some which do not combine with hydrogen or with oxygen, and therefore, the hydrogen standard or unit fails on this account, we may refer to the atom of oxygen, and determine what weight in question, such as in 16, is formed of only one compound to be formed, unites with eight parts by weight, or one atom of oxygen. Now cadmium is a metal of this description; it forms no compound with hydrogen, and only one with oxygen, and as eight parts of this element unite with fifty-six of the metal, to form the only known oxide of it, we say that the atomic weight of cadmium is fifty-six, and that the oxide is composed of

Oxygen . . . 1 atom = 8
Cadmium . . . 1 atom = 56

Oxide of cadmium 1 atom = 64

It is, however, possible, though by no means probable, that such an oxide may be formed, for the oxide in question may be composed of either of two or more atoms of oxygen united with one atom of the metal, or the contrary, instead of what is presumed to be; but the error may be detected by examining the proportion in which the metal unites with other elements, whose atomic weights are already determined. The atomic weights of sulphur, chlorine, and selenium, are respectively 16, 36, and 40; now if, in a series of combinations with these substances, the compound containing the largest proportion of metal were constituted of

Sulphur 16 Chlorine 36 Selenium 40
Metal 56 Metal 56 Metal 56

we should then conclude, as these agree with the composition of the oxide, as above given, that 56 is the atomic weight of the metal. But if it were found that the compounds in question containing the largest proportion of metal were constituted of

Sulphur 16 Chlorine 36 Selenium 40
Metal 112 Metal 112 Metal 112

we should conclude that the atomic weight of the metal was 112, and consequently that the oxide formed of 8 oxygen and 56 metal was a peroxide, or composed of 2 atoms of oxygen combined with 1 atom of metal.

If, on the other hand, it appeared that the compound containing the largest proportion of metal consisted of

Sulphur 16 Chlorine 36 Selenium 40
Metal 23 Metal 23 Metal 23

we must then consider the oxide composed of 8 oxygen and 56 metal as a suboxide, constituted of 1 atom of oxygen = 8 + 2 atoms of metal = 56.

This method of proceeding is according to the rule thus laid down by Dr. Dalton, 'It is necessary not only to consider the combinations of A with B, but also those of A with C D E, &c., as well as those of B with C D, &c., before we can have good reason to be satisfied with our determination as to the weights which enter into the various compounds.' (New System of Chemical Philosophy, vol. ii. p. 300.)

In fact, the protioxide of a metal, i.e. 1 atom oxygen + 1 atom metal, may possess such properties as to prevent its composition from being determined accurately ascertained; and it is likewise possible that no protioxide may exist.

We have alluded to the circumstance, that various compounds of the same two elements may exist, and supposing any metal, say copper or silver, combined with the same proportions of oxygen, various questions may arise as to the constitution of the resulting oxides: as, whether that which contains least oxygen is a protioxide or protioxide; or whether that which contains most is a protioxide or a perioxide. These are points which can be determined only by experiment.

For example, with respect to oxygen and copper, that oxide which contains least oxygen consists of 8 oxygen + 64 metal; that which contains most, of 16 oxygen + 64 metal: now, in this case, we consider that which contains least oxygen as composed of 1 atom of each of its elements, and that which contains most, as formed of 3 atoms of oxygen + 1 atom of copper—thus:

Oxygen 1 atom = 8 Oxygen 2 atoms = 16
Copper 1 atom = 64 Copper 1 atom = 64

Protioxide of cop. 1 atom = 75 Perioxide of cop. 1 atom = 80

This rule of assuming that oxide to be a protioxide which contains least oxygen will be generally found correct, except perhaps when most improbable, and in this instance, by the corresponding constitution of the two chlorides and two sulphate, we find the oxides of silver, however, form an exception, though a very rare one, to this rule; there are two oxides of this metal composing the composition of

Oxygen 8 and Oxygen 8
Silver 165 Silver 110

If it were to be assumed in this case, that 165 is the atomic weight of silver, because it is the largest proportion which combines with 8, or 1 atom of oxygen, the assumption would be erroneous, for this reason: no corresponding chloride, sulphuret, &c., and it would be unlike other protioxides, in forming no compound with any acid. But all these properties belong to the oxide of silver composed of 8 oxygen and 110 silver; in this case the oxide contains metal and oxygen, which is composed of 3 atoms of oxygen + 18 + 3 atoms of silver 320. In fact, however, the rule may be relied upon, that the metallic oxide which contains least oxygen is the Protioxide, and that weight of metal which combines with 8 by weight of oxygen, denotes the weight of its atom, and their united weight that of the oxide.

It will be observed, with respect to the compounds of oxygen and copper, that the second portion of that element unites with the same quantity of metal, is double the first. Now upon this fact are founded one of the most important and beautiful peculiarities of Dr. Dalton's theory, sometimes described as the doctrine of multiples. In the case just alluded to, the second portion of copper is precisely double the first; but there are some cases in which the greater proportions are not multiples of the less, by any entire number: for example, there are two well-known oxides of iron consisting of

Oxygen 8 Oxygen 12
Iron 28 Iron 28

The first of these is the protioxide, and the second the perioxide; but it will be observed, the second portion of oxygen is only one-half greater than the first, instead of double, as happens with respect to copper. In fact, the additional quantity is equal to only half an atom of oxygen; and the method of dividing and multiplying is overcome by multiplying both the oxygen and iron by 2, in which case we shall have 12 × 2 = 24, or 3 atoms of oxygen, combined with 28 × 2 = 56, 2 atoms of iron, and these proportions are perfectly correct with the theory.

Other cases of apparent anomaly occur: thus there are three oxides of lead, viz:

Oxygen 8 Oxygen 10.86, &c. Oxygen 16
Lead 112 Lead 29.4 Lead 28
The first and last of these oxides are composed exactly as the oxides of copper are, the second portion of oxygen being double that of the first; but the red oxide of lead is composed of an atom of metal and such a quantity of oxygen as is equal to one atom and a third. If, then, both the oxygen and metal be multiplied by 3, we shall have a compound of 4 atoms of oxygen and 3 atoms of lead, or 24 + 315 = 339, and it is seen if these 344 parts of red lead be treated with much dilute nitric acid, they are separated into 8 atoms of protioxide = 224, which are dissolved, and 1 atom of perioxide = 119, which remains unacted upon in the state of the powder. This case, then, of apparent anomaly is explained by showing that the red oxide of lead is equivalent to, or perhaps composed of, the other two oxides, and is resolvable into them.

The oxides of manganese offer a still more remarkable case of apparent irregularity of combination, and of the disposition of metallic oxides themselves to combine in definite proportions. There are five oxides of this metal, all of
which are reducible into the protoxide and peroxyde by the action of dilute sulphuric acid.

While on the subject of multiples, it will be proper to adduce one of the most remarkable and regular series of them presented to us. There are five compounds of oxygen and azote, viz.

Oxygen.  
Nitric oxide, composed of \( 8 = 1 \text{ atom} + 14 = 1 \text{ atom} \).  
Nitric oxide 16 = 3 atoms + 14 do.  
Nitrous acid 24 = 2 + 14 do.  
Nitrous acid 32 = 4 + 14 do.  
Nitric acid 40 = 5 + 14 do.

In these compounds, it will be observed, to form a new compound, 1 atom of oxygen in every case added to the preceding quantity, and the atoms of oxygen combined with

While in some cases the hydrogen and in others the oxygen standard is assumed, there are others in which they may be employed indiscriminately; thus, of carbon 6 parts by weight is the large quantity which combines either with 1 part by weight of hydrogen, or 1 atom, or with 8 parts by weight of oxygen, or 1 atom; 6 is therefore the atomic weight of carbon. But with sulphur the case is different; 32 is the largest portion that combines with 1 of hydrogen, but 16 is the greatest quantity that may be mixed, as it now is, with 8 of oxygen; now the latter, or 16, is assumed as its atomic weight, for 22 taken, as indicated by the hydrogen unit, we should have no compound of 1 atom oxygen + 1 atom sulphur, which would occasion more inconvenience than results from the interposition of a subhydrous or of a sulphuret of hydrogen, or, which is the same, a bismuthuret of hydrogen.

With respect to azote also, the atomic weight is fixed at 14, that being the largest quantity which combines with 8 of hydrogen. Two compounds of hydrogen and azote, viz. ammonia; this consists of 3 parts by weight of hydrogen and 14 by weight of azote; consequently, if we had taken the hydrogen standard, the atomic weight of azote would have been \( \frac{14}{3} = 4 \frac{2}{3} \), which would have greatly complicated the constitution of the compounds of oxygen and azote; but the alternative of supposing ammonia to contain 3 of hydrogen instead of 1 of oxygen is of secondary importance, though it must be admitted that it contravenes the rule laid down by Dalton, that when only one combination of two bodies can be obtained, it must be presumed to be a binary one.

The case in which the second portion of oxygen in an azide, instead of being equal to the first, is only one-half greater has been pointed out in the instance of the oxygen of iron, and the means by which the absurdity of supposing the existence of half an atom is obviated has been mentioned. There are, however, some cases in which it is convenient to consider such an azide as containing an atom and a half of oxygen, and it is then termed a sesquiazide; there are also several instances in which salts are commonly considered as containing a quantity of acid equal to an atom and half, and these are termed sesquiacids.

The alkaline ammonium, phathal, and soda, and some other bases, form three compounds with the same acid; for example, we have

Carbontate of potash, composed of 1 of sodium + 1 atom base.
Bicarbontate of potash, 2 atoms sodium + 1 atom do.
Potash, 3 atoms sodium + 2 atoms do.

It is very evident that the last salt is equivalent to a compound of 1 of sodium + 1 atom base. Now if an atom of the base, instead of entering the combination directly, be decomposed, by the action of nitrate of lime, double decomposition ensues, 1 atom of neutral nitrate of potash remains in solution, 1 atom of neutral carbonate of lime is precipitated, and carbonic acid escapes, and if the quantity of lime be in excess, 1 atom of neutral carbonate of lime is precipitated, and carbonic acid escapes; for if lime-water be added to an atom of a sesquiacid, carbonate of lime is precipitated equivalent in quantity to 1 atom of the base.

These facts are sufficient to show that combining and atomic weights are not convertible terms, though they have been so employed. Thus the atomic weight of an alkaline compound of 3 atoms carbonic acid and 2 atoms potash is 162; considered as a sesquiacid, its atomic weight is 81; and its combining weight is the same with respect to an atom of nitric acid; but it is one-half greater as regards an atom of lime. The same remark will apply to bisalts; they must also be considered as having one combining weight for their acids and another for their bases.

It may now be easily made to appear how it happens that when two neutral salts decompose each other, the new salts obtained by the operation are neutral; an atom of nitric acid weighs 64, and one of barytes 76, forming when mixed an atom of neutral nitrate of barytes; 88 = atom of neutral sulphate of potash is composed of an atom of sulphuric acid = 40, and an atom of potash = 48. Now when 130, or an atom of nitrate of potash, is mixed with a solution of 88, or an atom, of sulphate of potash, double decomposition ensues, and two new and entirely perfect salts are formed, viz., 1 atom of nitrate of potash = 102, consisting of an atom of nitric acid = 44, and an atom of potash = 48; this remains in solution; and there is precipitated an atom of neutral sulphate of barytes = 116, composed of 1 atom of sulphuric acid = 40, and 1 atom of barytes = 76. The annexed diagram will show the constitution of the salts employed, and those formed by them. From this explanation; and it will be seen also that the weight of the new compounds is precisely equal to those of the original salts.

![Diagram](image)

Although the atomic theory, thus developed by Dr. Dalton in 1806, contained truths of the highest importance, quite independent of the hypothesis by which they were illustrated, it was not until after the appearance of Dr. Wollaston's Memoirs, On Super-acid and Sub-acid Salts, and On a Synoptic Scale of Chemical Constitution, that chemists were fully impressed with the practical applications of which the theory was susceptible. In the first memoir (Phil. Trans. 1806), a memoir equally remarkable for its conciseness and clearness, Dr. Wollaston shows, that Dr. Dalton's theory, first applied to determining the constitution of gaseous bodies, is applicable to that of super-acid and sub-acid salts; and he proves that super-carbonate of potash contains exactly half the quantity of carbonic acid existing in the super-carbonate, by showing that if the latter be heated it loses half its acid, and is reduced to the state of sub-carbonate by the loss; the same rule was found to exist with the sub-carbonate and super-carbonate of soda, the sulphate and super-sulphate of potash, and with three oxalates of potash.

The paper on the 'Synoptic Scale' appeared in the Phil. Trans. for 1814. By this instrument the practical utility of the doctrine of definite proportions was most satisfactorily pointed out.

This instrument consists of a moveable scale of numbers on the principle of Gunter's scale, so that any number can be placed opposite the names of a series of substances in adjoining columns, arranged in the order of their combining weights. To each name is attached the combining weight of a body being placed opposite to its name—that, for example, opposite to oxygen—the numbers expressing the combining quantities of others will appear opposite to their names; thus copper will be found opposite to 40, showing that this quantity it combines with 19 of oxygen, and opposite to 50 will be found oxide of copper. By mere inspection, a great number of important results are obtained. If the composition of a substance with regard to the proportion of its elements is to be determined, the slider is to be so placed that the number 100, or any required number, is opposite to its name, and the respective quantities of the ingredients will be found opposite to their names; and the quantities of the ingredients required to decompose them: for example, when 86 is placed opposite to sub-carbonate of potash, 27:5 will be opposite to carbonic acid, 59:1 to potash, 61:3 to oil of vitriol, 50 to dry sulphuric acid, and 11:3 to water.
Now it is well known that sub-carbonates of potash is de-
composed by sulphuric acid; and on further inspecting the
scale, it will be observed that sulphate of potash, the newly-
formed salt, is opposite to 1091, showing the quantity formed
by the union of 50 of dry sulphuric acid and 591 of potash,
while 272 of carbonic acid are expelled, and 113 of water
are set free. This simple example is sufficient to show the
very extensive use which, by mere inspection, may be made
of this instrument in exhibiting the constitution of various
oxides, acids, and salts, and of the quantities of substances
required to form or decompose compound bodies.

As the results of these labours, he laid down certain laws
relative to chemical combinations, which, however, are in
general, and when correct, only to be considered as corol-
aries from those determined by Dalton. Within a few
years, a curious discovery has been made with respect
to the atomic constitution of some substances, viz., such
as are composed of precisely the same elements and in
the same proportion, but which possess very different pro-
perties; they are termed isomorphous bodies: the two
compounds of hydrogen and phosphorus; oil of wine and
light liquid hydro-carbon; tartaric and paratauric acids, are
among the more remarkable instances of this similarity of
composition and very different similarity of properties. It is,
however, extremely probable that more of such classes of
bodies exist, though they contain the same relative number,
so that the extent of similar number of atoms of the same
elements; on this hypothesis the atomic weights will differ, though they have
been estimated to be similar, and the different arrangement
of similar atoms in consequence of their increased number,
may be such as to occasion the difference of properties
observed.

In 1814 it was considered that part of the subject which
relates to the laws by which solid bodies enter into atomic
combination, it will be necessary to notice the very
important laws which M. Gay-Lussac discovered with respect
to the combination of gaseous bodies. The memoir con-
taining these laws is termed the Theory of Volumes in
vol. ii. p. 207 of the Mémoires de l'Académie, 1814, and is
titled Sur la Combinaison des Substances Gazeuses, &c.
The author, suspecting, from the previously-ascertained fact that
100 volumes of oxygen gas combine with 200 volumes of hydrogen
gas to form water, that other gaseous bodies would
be found to unite in simple proportions of nitric or
nitrous acid, and fluoric acid gasses, and combined them with
ammoniacal gas, and be found that they united in the follow-
ing proportions:

100 volumes of nitric acid gas with 100 of ammoniacal gas.
100 volumes of nitrous acid with 100 of ammoniacal gas.
100 volumes of hydrogen with 200 volumes of ammoniacal gas.
100 volumes of fluoric acid gas with 200 volumes of
ammoniacal gas.

The series of compounds, however, which must remarkably
illustrate the fact that gaseous substances unite in the simple
ratio of 1 to 1, 1 to 2, 1 to 3, &c., are those of oxygen and
nitrous acid, already mentioned with other views, are:

<table>
<thead>
<tr>
<th>By Volume</th>
<th>By Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrous oxide</td>
<td>2 16</td>
</tr>
<tr>
<td>Nitric oxide</td>
<td>2 14</td>
</tr>
<tr>
<td>Hypochlorous acid</td>
<td>3 12</td>
</tr>
<tr>
<td>Nitric acid</td>
<td>4 10</td>
</tr>
<tr>
<td>Fluoric acid</td>
<td>5 18</td>
</tr>
</tbody>
</table>

The same results has found also to apply to the combination
of gaseous with auras, thus:

100 volumes of hydrogen gas with 100 volumes of oxygen gas.
100 volumes of oxygen gas with 100 volumes of hydrogen gas.
100 volumes of oxygen gas with 100 volumes of carbon dioxide.
100 volumes of hydrogen gas with 100 volumes of carbon dioxide.

Indeed, chemists have ventured, on the strength of the last
mentioned facts, to estimate the weight of the vapour of
bodies which have been condensed from sulphur and salol, being
separately vaporized; that light carbonated hydrogen gas, it
is presumed to be composed of two volumes of hydrogen gas,
and one volume of the vapour of carbon; and so with all
other gaseous compounds of carbon.

Dr. Turner (Elements of Chemistry, p. 204) has well ob-
erved, that the simple ratios in which volumes combine
is peculiarly interesting, because it appears to indicate a
close correspondence in the size of the atoms of gaseous
bodies.

The same numbers which indicate the specific gravity of
elementary principles in the gaseous state would then express
the relative weights of the atoms, and the specific gravity
be ascertained by means of the former, or the atomic weight
of a solid or liquid represent the specific gravity of its
vapour. The proportional numbers adopted by Sir H. Davy
in his Elements of Chemical Philosophy, and the atomic
weights employed by Berzelius in his System of Chemical
Principles were selected in accordance with this view.

Thus, water, being formed of two measures of hydrogen and one measure of
oxygen, is believed by Berzelius to consist of two atoms of
the former, and one atom of the latter; and, for a similar
reason, benzoyl is composed of 21 atoms of hydrogen gas,
and two atoms of nitrogen and one atom of oxygen.

The atoms and volumes of the four elementary gases—oxygen, chlorine,
hydrogen, and nitrogen—are thus made to coincide with the
atomic weights of their various chemical bases, though perhaps preferable in one
other, has not hitherto been possible. It is interesting to
observe, that the chemists consider water, protoxide of chlorine, and protoxide of
nitrogen, as containing each one atom of their elements;
and, consequently, that as the compounds consist of one
measure of oxygen gas united with two measures of the other
constituent, the atom of hydrogen, chlorine, and nitrogen
are supposed to occupy twice as much space as an atom of
oxygen. An atom of oxygen is therefore represented by
half a volume, and an atom of the other three gases by a
whole volume.

Dr. Thomson, in the sixth volume of the
Annals of Philosophy, a paper 'On the Relation between
the Specific Gravities of Bodies in their Gaseous States, and
the Weights of their Atoms,' the observations offered in
this memoir are not precisely in accordance with the
conclusions of volumes just described. The author shows, that if
atmospheric air be a compound of 20 volumes of oxygen and 80
volumes of nitrous gas, and its equivalents 8 and 14, then the spec-
ic gravity of these gases are—oxygen, 1/1111; nitrous
1/9722. He also shows, that the specific gravity of
hydrogen gas is 1/694; that if we reckon the atomic weight of
hydrogen 1/125, that of oxygen is unity. He also ob-
serves, that the atomic weights of bodies appear to be mul-
tiples of the atomic weight of hydrogen by a whole number.

It was remarked by him, that in the general the specific
gravity of the body in a gaseous state may be obtained by
multiplying its atomic weight by 1/6958, or half the specific
gravity of oxygen gas, because the atom of oxygen is repre-
sented by half a volume, but that of most other substances
by a whole volume.

Dr. Thom. (Attempt to establish the First Principles of
Chemistry by Experiment, vol. i., p. 96), fully adopting
Dr. Prout's views on this subject, says—Every substance,
of which I could procure—a sufficient quantity to enable me
to examine it fully, has been not only a multiple of the
atomic weight of hydrogen; but, if we except a few com-
pounds into which a single or odd atom of hydrogen enters.

They are all multiples of 2/3, or of two atoms of hydrogen.

This count and examination of the tables of the atomic weights, and
the last paper now before us, will be evident that such a law
would afford great facilities, as all fractional numbers would be
avoided, hydrogen being reckoned unity. In this

The late experiments of Muhler, and that of the
density of gases to their atomic weights, tend also
to prove that the doctrine of Prout cannot be safely
submitted.

(An. de Ch. et de Ph. l.v.).
Before giving a table of the atomic weights of elementary bodies, it would be proper to state the nature and weight of the standard from which they are reckoned, and the different terms employed to designate what—adopting the language of Dr. Dalton—we have described as an atom.

**STANDARD.**

Dr. Dalton, atom, hydrogen 1 oxygen 7
Dr. Faraday, equivalent, hydrogen 10 oxygen 1:13
Sir H. Davy, proportion, hydrogen 2 oxygen 15
Dr. Thomson, atom, oxygen 1 hydrogen 1:25
Berzelius, atom, oxygen 100 hydrogen 12.4793
Dr. Henry, atom, hydrogen 1 oxygen 8
Dr. Turner, equivalent, hydrogen 1 oxygen 16
Mr. Faraday, proportion, hydrogen 1 oxygen 8
Mr. Brande, proportion, hydrogen 1 oxygen 8

The method of mutually converting the numbers of each standard into those of the other is too obvious to require explanation.

The use of the term atom has been objected to as hypothetical, because it is said that we have no means of ascertaining or judging of the weight or magnitude of an atom of any element, and that any supposed relative weight of these atoms must therefore be a mere hypothetical assumption, which no satisfactory conclusion can be drawn from, and by those who appear to entertain this opinion, other terms, as above quoted, are substituted for the word atom, which is, however, intended to express merely the smallest division which is found of any element without decomposition.

The following remarks by Dr. Wollaston, in his memoir on the finite extent of the atmosphere (Phil. Trans. 1829), are strongly in favour of the atomic constitution of matter.

Now, though we have not the means of ascertaining the extent of our own atmosphere, those of other planetary bodies are nevertheless objects for astronomical investigation; and it may be deserving of consideration, whether, in any instance, a deficiency of such matter can be proved, and whether, from this source, any conclusive argument can be drawn in favour of ultimate atoms of matter in general. For, since the law of definite proportions discovered by chemists is the same for all kinds of matter, whether solid, or fluid, or elastic, if it can be ascertained that any one body consists of particles no longer divisible, it can then scarcely doubt that all other bodies are similarly constituted; and we may without hesitation conclude, that those equivalent quantities, which we have learned to appreciate by proportionate numbers, do really express the relative weights of elementary atoms, the ultimate objects of chemical research.

**Table of the Atomic Weights of Elementary Bodies.**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen</td>
<td>1</td>
</tr>
<tr>
<td>Carbon</td>
<td>12</td>
</tr>
<tr>
<td>Lithium</td>
<td>13</td>
</tr>
<tr>
<td>Oxygen</td>
<td>14</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>18</td>
</tr>
<tr>
<td>Sulphur</td>
<td>20</td>
</tr>
<tr>
<td>Fluorine</td>
<td>22</td>
</tr>
<tr>
<td>Chlorine</td>
<td>24</td>
</tr>
<tr>
<td>Bromine</td>
<td>25</td>
</tr>
<tr>
<td>Zinc</td>
<td>32</td>
</tr>
<tr>
<td>Manganese</td>
<td>34</td>
</tr>
<tr>
<td>Copper</td>
<td>44</td>
</tr>
<tr>
<td>Tellurium</td>
<td>46</td>
</tr>
<tr>
<td>Chromium</td>
<td>58</td>
</tr>
<tr>
<td>Zinc</td>
<td>74</td>
</tr>
<tr>
<td>Chlorine</td>
<td>88</td>
</tr>
<tr>
<td>Yttrium</td>
<td>102</td>
</tr>
<tr>
<td>Arsenic</td>
<td>128</td>
</tr>
<tr>
<td>Potassium</td>
<td>152</td>
</tr>
</tbody>
</table>

**Dr. Thomson.**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Weight (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>2</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>5</td>
</tr>
<tr>
<td>Silver</td>
<td>18</td>
</tr>
<tr>
<td>Gold</td>
<td>195</td>
</tr>
<tr>
<td>Lead</td>
<td>207</td>
</tr>
<tr>
<td>Tin</td>
<td>216</td>
</tr>
<tr>
<td>Iron</td>
<td>55</td>
</tr>
<tr>
<td>Copper</td>
<td>63</td>
</tr>
<tr>
<td>Zinc</td>
<td>65</td>
</tr>
<tr>
<td>Chlorine</td>
<td>67</td>
</tr>
<tr>
<td>Silver</td>
<td>69</td>
</tr>
<tr>
<td>Gold</td>
<td>70</td>
</tr>
<tr>
<td>Lead</td>
<td>72</td>
</tr>
</tbody>
</table>

It is to be observed, that it is not ponderable matter only which appears by the law of definite proportions. Duhring and Petit have inferred from their experiments (Ann. de Ch. et de Ph., vol. x.) that the atoms of simple substances have the same capacity for heat. Dr. Dalton has, however, objected to this opinion, that the product of the weight of an atom by the constant of the heat is not a constant quantity; because the capacity of the same substance varies with change of form, or with variation of temperature without change of form. Added to which the weights of the atoms, as indicated by the specific heat, would be very materially different from those now adopted in many cases.

The late beautiful experiments of Mr. Faraday on the absolute quantity of electricity associated with the particles or atoms of matter, prove that, for a given definite quantity of electricity passed, an equally definite and constant quantity of water or other matter is decomposed; and he concludes also, that the electricity which decomposes, and that which is evolved by the decomposition of a certain quantity of matter, are alike. "The harmony," observes he, that the theory of the definite evolution of electricity and the equivalent definite action of electricity introduces into the associated theories of definite proportions and electro-chemical affinity, is very great. According to this, the equivalent weights of bodies are simple ratios of those quantities of heat which contain equal quantities of electricity, or have naturally equal electric powers; it being the electricity which determines the equivalent number, because it determines the combining force. Or, if we adopt the atomic theory or pharsology, then the atoms of bodies which are equivalents to each other in their ordinary chemical action have equal quantities of electricity naturally associated with them. (Phil. Trans. 1824.)

With respect to the utility of the atomic theory, we cannot do better, in concluding this account of it, than to state, in the words of Dr. Daubeney (Introduction to the Atomic Theory, p. 87), that "it would be superfluous to enlarge upon the proofs already afforded, with respect to the greater precision it has introduced into the sciences, and the wonderful saving of time and labour which is derived from it, not only by the philosopher in his more speculative inquiries, but even by the manufacturing chemist, in the every-day operations of his trade."

It is evident that, in the present state of our knowledge, no sooner have we ascertained the exact proportion in which a new substance unites with any one of those bodies whose atomic weight is already determined, than we are enabled to calculate in what quantities it must combine with all the remainder, so that, instead of being perplexed, we would have appeared necessary, to analyze every existing combination, in order to determine the proportion of its ingredients; which phenomenon, were it not for the sake of obviating the chances of error in any single experiment, with ascertaining the composition of that out of
air, more or less, revolving with the earth up to so great a height. Forty or fifty miles is supposed to be the limit which it reaches; but, however, to entering upon this question, it is material to know whether we are to consider air as infinitely divisible or not. By which we mean, is it possible for air to be rarefied to any extent whatever, and still preserve its greatest density, or, its greatest virulence? and if so, in what parts? We might mention various arguments drawn from the atomic theory, but Dr. Wallaston (Phil. Trans. 1812) has discussed this subject in a form which, while it adds some force to the atomic theory, at any rate, it does not seem connected with our subject; it furnishes a very strong presumption for the finite extent of the atmosphere. The following is a synopsis of his argument.

If there be air throughout the universe, we are obliged to suppose that every planet would collect an atmosphere around itself, proportionate to its attracting power. In this case, we know that Jupiter, at whose surface the force of gravity must be much greater than at that of our earth, would collect a powerful atmosphere around it. The effect of the refraction of light through this atmosphere would become visible in the approach of the satellites to the planet, when they disappear behind his disc, and would cause a sensible retardation in their rate of approach. No such effect could otherwise be observed; and, consequently, Jupiter has no such atmosphere, nor the means of collecting it: consequently, air, as we have at the earth, is not diffused in any degree of rarefaction through the whole solar system. Dr. Wallaston gives the following character of the air. The atmosphere is more conformable to the atomic theory than to that of the infinite divisibility of matter, since, in the first case, a boundary is possible, and will exist at the point where the weight of a single atom is as great as the repulsive forces of the medium; while in the latter case it is difficult to see the possibility of any boundary.

It has lately been observed, that Sekcke's comet appears, in successive revolutions, to show a slight degree the effect of refraction, its appearance being that of a small, redish object; which same thing has very lately been said of that of Biela. It might therefore appear that the preceding argument is weakened in force by this circumstance, or, nice versa, since the large planets might collect sensible atmospheres of the resisting fluid, whatever it be. But on this we must observe, that supposing the fact of the resisting medium to be established (and several astronomers are of that opinion), it by no means follows that it is common air, or any thing approaching a fluid in cession of its density.

On the contrary, the facts observed with regard to the motion of the planets (which show no signs whatever of a resisting medium), and the extreme tenacity of the comets themselves (through which so faint stars may be seen), justifies the supposition that there exists in the atmosphere of a very high degree of elasticity as compared with air; and it is by no means improbable that the planets actually may have atmospheres of this same medium, not sensible to our instruments, on account of the very small increase of density which is sufficient to counterbalance the action of a planet. To elucidate this subject, see Elasticity, Fluid, (Elasatic).

The preceding arguments go to show, that even supposing the temperature of the atmosphere to be uniform throughout, there is no inconsistency in the supposition of a finite atmosphere. But a very strong presumption in favour of such an hypothesis is derived from the rapid decrease of the barometer and other gases at the base of the air, and the sinkage of the surface of the earth. The law of this decrease is unknown to us; at least we cannot even guess at the form it assumes in the higher regions of the mass of air. To this circumstance it is owing that all we can say upon those subjects must be little more than speculation. Near the earth, even at great elevations above the level of the sea, we cannot say that observed temperatures correctly represent the law of the atmosphere: for example, we cannot say that the average temperature of Quito, which is more than 9000 feet in elevation, is the temperature of the air 9000 feet above, and over, the sea. The only observation worthy of any confidence is that of Gay-Lussac, taken during his celebrated ascent, at a height of 6900 meters above the sea, which is the average temperature between air at the surface and at the height just mentioned was 40°F of the centigrade thermometer, or nearly 73°F of Fahrenheit. This, if the decrease of temperature be uniform, gives a diminution of 1°F of Fahrenheit for every 189 yards, or of 1 centigrade for every 173 degrees of elevation.

The following table was deduced by Humboldt from various observations. It will serve to show how far the temperatures of elevated regions in the earth agrees with those of the same height in the atmosphere, as deduced from the preceding. The first column is the height of the land above the level of the sea (in meters); the second, the mean temperature of the centrifuge at any given height; the third, the same in about 45° of latitude. The thermometer used is the centigrade; (+) above, and (−) below, the freezing point.

<table>
<thead>
<tr>
<th>Elevation in Meter</th>
<th>Equator.</th>
<th>Lat. 45°</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>+3°</td>
<td>+5°</td>
</tr>
<tr>
<td>924</td>
<td>+3°</td>
<td>+5°</td>
</tr>
<tr>
<td>1949</td>
<td>+1°</td>
<td>+0°</td>
</tr>
<tr>
<td>2932</td>
<td>+1°</td>
<td>+0°</td>
</tr>
<tr>
<td>3900</td>
<td>+1°</td>
<td>+0°</td>
</tr>
<tr>
<td>4872</td>
<td>+1°</td>
<td>+0°</td>
</tr>
</tbody>
</table>

From the preceding table, it appears that at the equator, on the average of 4872 meters, a rise of 187 meters gives a rise of 1° of Fahrenheit; while at the same height in higher regions than in the lower. From 0 to 1949 meters of elevation, an elevation of 214° produces a fall of 1°; but from 2932° to 4872°, an elevation of 152° does the same.

The argument in favour of the finite extent of the atmosphere, derived from the preceding observations, is as follows. Suppose an elevation of 200 yards to produce a fall of 1° of Fahrenheit's thermometer (which, as we have seen, is likely to fall short of the truth), that is, to give the higher regions of the atmosphere a higher temperature than that at the same height in the bether. It follows, that at a height of forty miles above the level of the sea, the temperature of the air must be 350° of Fahrenheit below that of the sea, or certainly more than 300° below the freezing point. There is the strongest reason to suppose that the atmosphere will be a gaseous state at this low temperature, but would become liquid: and though no gas has yet been rendered liquid by reduction of temperature, yet several have been reduced to that state by cold and pressure respectively.

If, then, we suppose the atmosphere of finite extent, its form must be nearly that of an oblate spheroid, the lesser axis passing through the poles of the earth; at the same time the action of the sun and moon must produce certain diurnal oscillations; and hence the temperature of the atmosphere must be constantly disturbing the base on which the atmosphere rests, must produce periodical alterations of form in the latter also. If any such exist, sensible, they may be detected by the barometer; for, certes variabilis, any increase in the height of the barometer will be accompanied by a small increase in the height of the counterbalancing column of mercury. Laplace was the first who examined this curious branch of the subject. He showed by analysis that the attraction of the sun and moon could produce no permanent effect upon the currents of the atmosphere; for instance, such as the trade-winds. He also showed that the diurnal oscillations caused by the above-mentioned attractions would only produce a very slight effect upon the atmosphere; in fact, less than one millimetre, or 1/25th of an inch. The reduction of a large number of observations gave, at first, 0.05 of a millimetre for the quantity in question; those of another set gave 0.18; from which Laplace concluded, taking into account the smallness of the oscillations previously mentioned and the degree of probability which could be a posteriori calculated so different, that the sensible existence of the atmospheric tide was doubtful. In the meantime, however, the diurnal variation of the barometer has been observed in the meridian of Paris, and observations made in several different places. But the law and amount of this oscillation appears to vary so much with latitude, climate, and other circumstances, that no positive conclusion can yet be drawn, either to the exclusion of atmospheric tide, properly so called, or the adoption of any other cause in conjunction with it. Professor Forbes (Report of British Association, p. 230) has discussed all the observations, and has given a formula which represents tolerably well.

The average pressure of the atmosphere is found to be the same, or very nearly so, at any one place from year to year.
height ascended. The method of doing this will be explained in the article *Heights (Measurement of)*; we notice it here in order to mention a circumstance which shows that our knowledge of the general conditions of the atmosphere has not been overstated. In order to construct the formula, it is necessary to know the annual variation of the weight of the air, not only from its rarefaction, but also from its increasing distance from the earth,—the variation of elastic force, as well from rarefaction as from the attraction of the earth for the air above it, and also due to the attraction of the moon, arising from the alteration of temperature,—and to use the formula in different latitudes, the variation of the force of gravity on the earth's surface. In our ignorance of the variation of the temperature, it is usual to allow to the whole column of air at each separate point of observation, the average temperature of its upper and lower extremities. This is the most doubtful part of the process; and as a verification, recourse is had to the comparison of heights measured by the barometer, and also by the processes of trigonometry. It is thus found that a coefficient which, when deduced from theory alone, is 16337.46, appears from a number of heights measured trigonometrically to be 16336, differing from the former only by about its 16,000th part. This shows the effect of temperature to be sufficiently well taken into account, for such heights as we can measure, by the preceding supposition.

In the article *Air* some reasons were shown for supposing that its component parts were not united chemically, but only mixed. This opinion, which is now almost universally adopted, has given rise to questions on the constitution of the atmosphere, differing entirely from those of all chemists down to the present day. A law is found to prevail in the mixture of gases and vapours, as universal as the one described in the article *Air*, relative to the expansion arising from temperature,—namely, that two gases in a state of mixture exercise upon each other no influence one upon another, or communication of temperature, but that each is disposed in exactly the same manner as it would be if the other were not present. Thus it is found, entirely contrary to all previous notions, that no pressure of dry air upon water exerts the least influence in preventing the water from being blown which goes on exactly as if the space above were a vacuum, and continues until further evaporation is stopped by the pressure of the *steam already created*. It is found that no pressure of one gas can confine another in water; thus supposing a bottle partly full of water, the gas confined in the water will escape to the surface and distribute itself in precisely the same way as if the other gas were not present. By this it is not meant that the action commonly called chemical cannot take place, if the pressure is high enough, but that such a pressure would not trouble the air; but only that the permanent settlement of one gas is not affected in any way by the presence of another, so long as no chemical action is excited. From this principle of Mr. Dalton (Phil. Trans. 1802), these results are deduced, the chief of which are the two experiments which exist against the chemical union of the ingredients of the atmosphere, infers that the atmosphere does not consist altogether of the compound called air, but that the *nitrogen atmosphere* is higher than the *oxygen atmosphere*. In fact, if there be no chemical union, the above law of the mixture of gases requires us to allow that each is an atmosphere independent of the other, and that the two are most probably of unequal bents.

From these considerations Mr. Dalton enters, and thinks that the actual pressures exerted by the oxygen and nitrogen are in the proportions of the columns occupied by them (see *Air*), that is as 1 to 4; and concludes that the oxygen atmosphere constitutes 18 miles in height, that of nitrogen to 34 miles, that of carbonic acid to 18 miles, and that of aqueous vapour to 50 miles. It must however be observed, that the state of the carbonic acid of the atmosphere is very variable, that there is not the same quantity by day as by night, in summer as in winter, in dry and in wet; and that the higher strata of the atmosphere contain more of it than the lower, which may arise from rapid absorption by the earth.

Against the hypothesis just described, it might perhaps be observed that the air which Gey-Lamotte brought down from a height of more than four miles was not found to differ from that of the earth's surface in the proportion of its oxygen to its nitrogen, which would have been diminished in density more than in proportion to the diminution of that of the nitrogen, if

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### 1. Effect of the wind upon the height of the barometer.

<table>
<thead>
<tr>
<th>Wind</th>
<th>No. of Observations</th>
<th>Height of Barometer at noon, 78</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>652</td>
<td>2'98</td>
</tr>
<tr>
<td>S.W.</td>
<td>737</td>
<td>3'38</td>
</tr>
<tr>
<td>W</td>
<td>656</td>
<td>3'09</td>
</tr>
<tr>
<td>N.W.</td>
<td>333</td>
<td>8'67</td>
</tr>
<tr>
<td>N</td>
<td>438</td>
<td>9'76</td>
</tr>
<tr>
<td>N.E.</td>
<td>379</td>
<td>9'89</td>
</tr>
<tr>
<td>S.E.</td>
<td>254</td>
<td>7'04</td>
</tr>
<tr>
<td>E</td>
<td>231</td>
<td>4'90</td>
</tr>
<tr>
<td>Mean</td>
<td>6'48</td>
<td></td>
</tr>
</tbody>
</table>

### 2. Mean heights of the barometer for each year, from 1816 to 1826, at 9 a.m. in the morning, and 9 p.m. in the evening.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Height of Barometer</th>
<th>Diff. of 1st and 2nd columns</th>
<th>Diff. of 3rd and 4th columns</th>
</tr>
</thead>
<tbody>
<tr>
<td>1816</td>
<td>4'19</td>
<td>2'13</td>
<td>2'13</td>
</tr>
<tr>
<td>1817</td>
<td>6'65</td>
<td>4'91</td>
<td>4'91</td>
</tr>
<tr>
<td>1818</td>
<td>7'31</td>
<td>7'61</td>
<td>7'61</td>
</tr>
<tr>
<td>1819</td>
<td>5'34</td>
<td>2'57</td>
<td>2'57</td>
</tr>
<tr>
<td>1820</td>
<td>5'32</td>
<td>2'54</td>
<td>2'54</td>
</tr>
<tr>
<td>1821</td>
<td>5'66</td>
<td>3'06</td>
<td>3'06</td>
</tr>
<tr>
<td>1822</td>
<td>7'58</td>
<td>7'11</td>
<td>7'11</td>
</tr>
<tr>
<td>1823</td>
<td>5'19</td>
<td>4'43</td>
<td>4'43</td>
</tr>
<tr>
<td>1824</td>
<td>5'95</td>
<td>5'26</td>
<td>5'26</td>
</tr>
<tr>
<td>1825</td>
<td>7'56</td>
<td>7'23</td>
<td>7'23</td>
</tr>
<tr>
<td>1826</td>
<td>5'75</td>
<td>4'96</td>
<td>4'96</td>
</tr>
<tr>
<td>Mean</td>
<td>6'34</td>
<td>5'91</td>
<td>5'91</td>
</tr>
</tbody>
</table>

### 3. Mean heights of the barometer for each month of the year, from the mean of the years 1816-1826, at 9 a.m. in the morning, and 9 p.m. in the afternoon.

<table>
<thead>
<tr>
<th>Month</th>
<th>Average Height of Barometer</th>
<th>Diff. of 1st and 2nd columns</th>
<th>Diff. of 3rd and 4th columns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>7'48</td>
<td>7'35</td>
<td>7'35</td>
</tr>
<tr>
<td>Feb.</td>
<td>7'36</td>
<td>7'31</td>
<td>7'31</td>
</tr>
<tr>
<td>March</td>
<td>5'98</td>
<td>5'93</td>
<td>5'93</td>
</tr>
<tr>
<td>April</td>
<td>6'72</td>
<td>6'61</td>
<td>6'61</td>
</tr>
<tr>
<td>May</td>
<td>5'58</td>
<td>5'32</td>
<td>5'32</td>
</tr>
<tr>
<td>June</td>
<td>5'72</td>
<td>5'55</td>
<td>5'55</td>
</tr>
<tr>
<td>July</td>
<td>6'54</td>
<td>6'37</td>
<td>6'37</td>
</tr>
<tr>
<td>Aug.</td>
<td>7'58</td>
<td>7'50</td>
<td>7'50</td>
</tr>
<tr>
<td>Sept.</td>
<td>7'77</td>
<td>7'62</td>
<td>7'62</td>
</tr>
<tr>
<td>Oct.</td>
<td>8'07</td>
<td>8'01</td>
<td>8'01</td>
</tr>
<tr>
<td>Nov.</td>
<td>7'89</td>
<td>7'83</td>
<td>7'83</td>
</tr>
<tr>
<td>Dec.</td>
<td>8'02</td>
<td>7'96</td>
<td>7'96</td>
</tr>
<tr>
<td>Mean</td>
<td>7'93</td>
<td>7'81</td>
<td>7'81</td>
</tr>
</tbody>
</table>
We do not know whether the experiments of M. Gay-Lussac were made, or even intended to be made, with that degree of accuracy which would justify its being considered a test of Mr. Dalton's theory; but in any case it is evidence that much work on the subject of gases was being done by chemists and by experimentalists of all sorts, and the progress of the science was being felt everywhere. The total quantity of the atmosphere (if the mean height of the barometer at Paris hold good for all other places) is a little less than the millionth part of the whole mass of the earth, supposing the mean density of the latter to be five and one-fifth times that of water. (Ptolemaeus, Microcosmopolis, 2d. edit. vol. i. p. 610.)

For the colour of the atmosphere, see Bot. For the quantity of moisture contained in it, see Hygrometry.

The atmosphere is the same as the following names: Herce, Cysimius, Galileus, Torricelli, Pascal, Florinco (Academy of), Boyle, Mariotte, Priestley, Scheele, Black, Lavoisier, Cavendish, &c.

The actual composition of the atmosphere, whether composed of molecules exerting a repulsive force upon each other or not, must remain unsettled until some mathematical hypothesis can be found which shall satisfy all observed phenomena. That probabilities are at present all on the side of the molecular or atomic hypothesis, is pretty generally admitted; and the repetition of the several parts of air is a fact of everyday experience. Newton entered upon this question, and showed (Principia, book ii. prop. 23) that if the constitution of the atmosphere be atomic, and if the particles of each atomic constituent shall only touch one another nearest to it, and be either nothing or inconsiderable as to all others, that then the observed proportionality of the elastic force to the density is consistent with no hypothesis except that of a repulsive force inversely proportional to the distance. He does not dwell on this particular point, but contented himself, that is, which becomes double when the distance is halved, and so on. But in the scholium to the same proposition, he takes notice of the imperfection of the hypothesis, and describes his theory as mathematical but hypotheses as philosophical, to consider the subject further. The molecular theory, on the supposition that every particle repels all the rest, or, which is as likely to be the case, has alternate spheres of attraction and repulsion, is in no way the result of the present state of mathematical analysis.

For the state of atmospheric knowledge up to 1868, see Robertson, General View of the Natural History of the Atmosphere, Edinburgh, 1868; from thence to 1872, see Daniel's Meteorological Essays, London, 1872; and for an account of what has been lately done, with further references, see Professor Forbes's Report on Meteorology, in the Reports of the British Association, London, 1873.

Artificial AIR, a distinction which has been preserved after the necessity for such a distinction has passed away. The term is given by the natives of the Maldives to the detached cellular formations of which their Archipelago is composed. They are commonly of a circular form (the reef seldom exceeding a mile in breadth, from fifteen to thirty miles in diameter, and rise perpendicularly from an endless depth of sea). Two openings which occasionally occur in these reefs afford passages for vessels, and safe anchorage is found in many within the coralscreeching wall; the space thus included is often intersected with canals, and is often intersected with canals, and is divided into lagoons, havens, &c. (See Air.)

ATOM, or ATOMS (from the Gr. atomos, indivisible), the ultimate and indivisible particles of matter, from a Greek word, signifying indissoluble. Analagous, the precursor of Bernoulli, who died a pauper, conjectured the number of elements to be near to infinitely infinite, that the greatest atoms composing every substance were of the same kind with that substance. (See Analagous.)

It is a common opinion of philosophers (and a philosopher of Aesopus, who flourished soon after Anaxagoras, and another, Atomus, who wandered in the mountains of what has been called the atomic philosophy, it was adopted by Democritus, in his Cosmogony; and afterwards by Epicurus, to whom its celebrity is chiefly owing. The account of this doctrine is copied from Dr. Good's Book of Nature, and is a clear and accurate sketch of the theory contained in the writings of Epicurus and his followers.

'The atomic philosophy of Epicurus, in its more physical contemplations, allows of nothing but matter and space, and all that we call material things, are not primary existents, but equally existed from all eternity, and from different combinations of which every visible form is created. These elementary principles have no common property with each other; for whatever matters is, that space is the reverse of; and whatever matter is, that space is the reverse of matter; some solidly parts of air, and the parts which are not altogether solid, but an intermixtures of solidity and pores, are space and matter; and this space and matter existed uncombined, or in their pure and elementary state. Space, in its elementary state, is absolute and perfect void; matter, in its elementary state, consists of inconceivably minute seeds or atoms so small, that the corpuscles of vapour, light, and heat are composed of them; and so solid, that they cannot possibly be broken or shattered by any concussion or violence whatever. The express figure of these primary atoms is various: there are round, square, pointed, jagged, as well as many other shapes. These shapes, however, are not diversified to infinity; but the atoms themselves of each existent shape are infinite or innumerable. Every atom is possessed of certain intrinsic powers of motion. Under the old school of Democritus, the unnatural motion or ascending motion, from the natural gravity of the atoms; and a rebounding motion, from collision and mutual clash. Besides these two motions, and to explain certain phenomena to which they did not appear competent, and which could not be accounted for, which is, when a body which has been occasionally possessed of a third, by which, in some very small degree, they descended in an oblique or curvilinear direction, desiring from the common and right line ascending and descending in respect resembling the oscillations of the magnetic needle.

These infinite groups of atoms, flying through all time and space in different directions, and under different laws, have interchangeably tried and exhibited every possible form of mutual encounter; sometimes reflected from each other by concussion, and sometimes adhering to each other from their own jagged or pointed construction, or from the casual interstices which two or more connected atoms must produce, and which may be just adapted to those of other figures, as globular, oval, or square. Hence the origin of compound and visible bodies; hence the origin of large masses of matter; hence, essentially, the origin of the world itself. When these primary atoms are closely compacted, and by the force of mutual attraction, here are clumped and condensed, into kinds of substances which we denominate solids, as stones and metals; when they are loosely and disjuncted, and a large quantity of space or vacuity is interposed, they exhibit bodies in vacuum, gases, heat, light, and air. The world, thus generated, is perpetually renewed by the application of fresh tidles of elementary atoms, flying, with inconvertible rapidity, through all the infinity of space, invisible from their minuteness, and occupying the posts of those times as are perpetually dying out. Yet nothing in eternal or immutable but these elementary seeds or atoms themselves. The compound forms of matter are continually decomposing and dissolving into their original corpuscles; to this there is no exception: minerals, vegetables, and animals, in this respect, are all alike, when they lose their present make, persisting for ever, and new combinations proceeding from the matter into which they dissolve. The world itself is a compound though not an organisable being; sustenance and nourishment is derived from the material pabulum that flows through the body of infinity. The world itself must, therefore, in the same manner perish: it had a beginning, and it will have an end. Its present crisis will be decomposed; it will return to its original, primitive, and tertiary atoms; and new worlds will arise from its destrucion.

'Space is infinite, material atoms are infinite, but the world is not infinite. This, then, is not the only world, nor the original, nor the great or last; it is not more than one of the infinite worlds, which have existed from all eternity; and there are other worlds, and other systems of worlds, existing around us.'

During the most flourishing period of the Greek philo
ATOMIC THEORY, in chemistry, sometimes termed the doctrine of definite proportions. This very important theory, founded on well-ascertained facts, has bestowed on modern chemistry an almost mathematical degree of precision. The hypothetical, which is to be distinguished from the experimental part of the subject, supposes that chemical compounds result from the combination of the ultimate atoms of their constituent parts. It has been determined by Sir Isaac Newton, and subsequent investigators, that a compound body, when pure, always contains the same proportions of its constituents: thus, calcareous spar, and the pure part of marble, chalk, and limestones, consist of carbonate of lime, composed of the same proportions of calcium and oxygen; that the lime contains the same quantity of carbon and oxygen, and that the lime the same proportions of calcium and oxygen. The same law also exists with regard to all similarly constituted oxides, sulphates, and salts, and it is deduced as to all chemical compounds whatever, whether presented to us by nature or formed by art: this is a simple statement of the fundamental facts upon which the superstructure of the atomic theory has been raised.

In order to proceed to detail the minutiae of the theory, it will be proper to give a sketch, though a slight one, of the principal discoveries connected with the subject.

The earliest experiments which could have served as a basis for the atomic theory are those of Wenzel, a German chemist, who published, in 1777, a work On the Affinities of Bodies; the experiments detailed in it, though neglected at the time, are now acknowledged to possess a very considerable degree of accuracy. The author showed that any two substances, when mixed, and the resulting new compounds were finally analysed, were found to contain the same proportions of the ultimate atoms of which they were composed, 'These are the fundamental laws on which the modern atomic theory is based. Dr. R. Thomson, to analyze the salts was an acknowledgment that bodies united with each other in definite proportions; and these definite proportions, had they been preserved, would have been the doctrine of atoms.' (History of Chemistry, vol. ii. p. 278.)

With reference to this subject, it is observed by Sir H. Davy, that 'there may be found in the works of Dr. Bryan Higgins, Mr. William Higgins, and Professor Richter, hints or conclusions bearing directly on this doctrine. Dr. Bryan Higgins, in his Experiments and Observations relating to Acesous Acid, Zuable Air, dense inflammable Air, &c., published in 1786, contends, that elastic fluids unite with each other in the same proportions only; and this depends upon the combination of their particular atoms in the same manner, and by the same law of intermediate states, which surrounds them as an atmosphere, and makes them repulsive of each other; and he distinguishes between simple elastic fluids, as composed of particles of the same kind, and compound elastic fluids, as consisting of two or more particles combined, in what he calls molecules, definite in quantity themselves, and surrounded by definite proportions of heat. Dr. Bryan Higgins's notions are almost identical with the doctrine of the atomists, who maintain that certain elastic fluids, such as the compound of acesous, consisting of one, two, three, four, and five

peptides of oxygen one to one of carbon, is difficult not to allow the merits of prior conception, as well as of very ingenious illustration, to the elder writer.' (Discoveries before the Royal Society, 1858.)

In justice, however, to Mr. Higgins, it must be admitted that this view is distinctly presented in The Antiphlogistic Theories, published in 1790, p. 37, he says, 'As two cubic inches of light inflammable air require but one of dephlogisticated air to condense them, we must suppose that they contain equal number of divisions, and that the difference of specific gravity depends chiefly on the size of their ultimate particles; or we must suppose that the ultimate particles of light inflammable air require two or three, or more, of dephlogisticated air to saturate them. If this latter were the case, we might produce in the intermediate state, as well as the vitriolic or the nitrous acid, which appears to be impossible; for in whatever proportion we mix our airs, or under whatsoever circumstances we combine them, the result is invariably the same. This likewise may be observed with respect to the decomposition of water. Hence we may justly conclude, that water is composed of molecules formed by the union of a single particle of dephlogisticated air to an ultimate particle of light inflammable air, and that these ultimate particles are incapable of uniting to a third particle of either of their constituent principal substances.'

It is a remarkable circumstance, that although Mr. Higgins's view of the atomic constitution of the five compounds of oxygen and azote is that which is now even very generally admitted, he did not state his ideas on this subject, and this idea of the comparative atomic constitution of sulphurous and sulphuric acids is decidedly erroneous. Indeed, as remarked by Sir H. Davy in the discourses above quoted, neither of the Higgenses attempted to express the quantities in which bodies combine.

In 1792, Richter, a Prussian chemist, published a work called Elements of Stochiometrie; or the Mathematics of the Chemical Elements. This author treated the subject in the same way as Wenzel had previously done, but extended it very considerably; he endeavoured to determine the capacity of saturation of each acid and base, and to indicate by numbers the weights which mutually saturate each other. He published a table of these, but though the attempt was new and exceedingly ingenious, the results were far from accurate.

The discoveries of Proust, a French chemist who was professor of chemistry at Madrid, are well worthy of notice, he being the first person who attempted an accurate investigation of the constitution of simple gases, and his work was followed by many others. He first showed that all the metals unite only with definite proportions of oxygen, and that the same law existed with sulphur and the metals, and that these might be stated in numbers. His opinions were strenuously opposed by Berthelot and Berthelot, but their accuracy is now admitted, though not by all. In the year 1808, now Dr. Dalton, of Manchester, communicated to the Literary and Philosophical Society of Manchester an essay containing an outline of his speculations on the subject of the composition of bodies (Manchester Memoirs, second series, vol. i. p. 266). The following year he explained his notions on the subject to Dr. Thomson, and in 1808 he published the first volume of his New System of Chemical Philosophy, in which he gave an outline of his views on the constitution of matter, which had been previously done on the subject by Higgins.

Dr. Dalton was unquestionably the first who laid down clearly and numerically, the doctrine of multiples, and endeavoured to express by simple numbers the weights of the bodies believed to be elementary. He announced it as a general rule, that 'when only one combination of two bodies can be obtained, it must be presumed to be a binary one, unless some cause appears to the contrary.' To prove this rule, he said, 'in all the combinations of hydrogen and oxygen, the parts of each is considered as one to eight. As the composition of hydrogen and oxygen is formed of oxygen, either of these elements may be selected as unity, and, in fact, as we shall hereafter notice, both have been occasionally employed as such. Dalton fixed on hydrogen, because it is that body which unites with others in the smallest proportion; thus,
Then, we have water composed of one hydrogen by weight, or one atom, and eight of oxygen by weight, or one atom, and in all cases an atom of hydrogen being represented by $1$, an atom of oxygen will be represented by $8$; and these being the atomic weights of each of its elements, that of the compound will be obtained by adding them together, thus:

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen</td>
<td>1</td>
</tr>
<tr>
<td>Oxygen</td>
<td>8</td>
</tr>
<tr>
<td>Water</td>
<td>9</td>
</tr>
</tbody>
</table>

The weight, then, of a compound atom is obtained by adding together the atomic weights of its constituents. Although many elements may have units with hydrogen, there are some which do not, but there is no one which does not combine either with hydrogen or with oxygen: when, therefore, the hydrogen standard or unit fails on this account, we use the atomic weight of oxygen, and determine the weight of the substance in question, supposing only one compound to be formed, units with eight parts by weight, or one atom of oxygen. Now cadmium is a metal of this description; it forms no compound with hydrogen, and only one with oxygen, and as eight parts of this element unite with fifty-six of the metal, to form the known oxide of it, we say that the atomic weight of cadmium is fifty-six, and that the oxide is composed of

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>8</td>
</tr>
<tr>
<td>Cadmium</td>
<td>56</td>
</tr>
</tbody>
</table>

Cadmum oxide $1$ atom $= 64$

It is, however, possible, though by no means probable, that such an inference may be incorrect, for the oxide in question may be composed either of two or more atoms of oxygen united with one atom of the metal, or the contrary, instead of what is assumed here, but the error may be detected by examining the proportion in which the metal unites with the elements, whose atomic weights are already determined. The atomic weights of sulphur, chlorine, and cadmium are respectively $16, 36,$ and $46:$ now, if in a series of combinations with these substances, the compounds containing the largest proportion of metal were constituted of

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphur</td>
<td>16</td>
</tr>
<tr>
<td>Chlorine</td>
<td>36</td>
</tr>
<tr>
<td>Selenium</td>
<td>73</td>
</tr>
<tr>
<td>Metal</td>
<td>112</td>
</tr>
<tr>
<td>Metal</td>
<td>156</td>
</tr>
<tr>
<td>Metal</td>
<td>192</td>
</tr>
</tbody>
</table>

Sulphur $16$ Chlorine $36$ Selenium $48$

Sulphur $16$ Chlorine $36$ Selenium $48$

we should then conclude, as agree with the composition of the oxide, as above given, that $56$ is the atomic weight of the metal. But if it was found that the compounds in question containing the largest proportion of metal were constituted of

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphur</td>
<td>16</td>
</tr>
<tr>
<td>Chlorine</td>
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</tr>
<tr>
<td>Selenium</td>
<td>73</td>
</tr>
<tr>
<td>Metal</td>
<td>112</td>
</tr>
<tr>
<td>Metal</td>
<td>156</td>
</tr>
<tr>
<td>Metal</td>
<td>192</td>
</tr>
</tbody>
</table>

we must then consider the oxide composed of $8$ oxygen and $56$ metal as a suboxide, constituted of $1$ atom of oxygen $= 8$ atoms of cadmium $= 56$.

This method of proceeding is according to the rule thus laid down by Dr. Dalton. 'It is necessary not only to consider the combinations of $A$ with $B$, but also those of $B$ with $A$, $C$, $C$, etc., as well as those of $B$ with $C$, $D$, &c., before we can have the confidence to say with one determination as to the number of atoms which enter into the composition of the compound.' (New System of Chemical Philosophy, vol. ii. p. 306.)

In fact, the protoxide of a metal, i.e. $1$ atom oxygen $+ 1$ atom metal, may possess such properties as to prevent its composition from being by direct means accurately ascertained; and it is likewise possible that no protoxide may exist.

We have alluded to the circumstance, that various compounds of the same two elements may exist, and suppose an elementary body, as copper or silver, united with two proportions of oxygen, various questions may arise as to the constitution of the resulting oxides: as, whether that which contains least copper is a suboxide; that protoxide; or whether that which contains most is a protoxide or a peroxide. These are points which can be determined only by comparison.

**Example:**

For, example, with respect to oxygen and copper, that oxide which contains least oxygen consists of $8$ oxygen $+ 64$ metal; that which contains most, of $16$ oxygen $+ 64$ metal; now, in this case, we consider that which contains least oxygen as composed of each of its elements, and that which contains most oxygen as formed of $2$ atoms of oxygen $+ 1$ atom of copper—thus:

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>8</td>
</tr>
<tr>
<td>Copper</td>
<td>64</td>
</tr>
</tbody>
</table>

Copper oxide $1$ atom $= 64$

While the protoxide of copper $= 78$

This rule of assuming that oxide to be a protoxide which contains least oxygen will be generally found correct, especially when confirmed, as it is in this instance, by the corresponding constitution of the two chlorides and two sulphates. The oxides of silver, however, form an exception, though a very rare one, to this rule; there are two oxides of this metal composed of

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>8</td>
</tr>
<tr>
<td>Silver</td>
<td>116</td>
</tr>
</tbody>
</table>

If it were to be assumed in this case, that $165$ is the atomic weight of silver, because it is the largest proportion which contains with $8$, or $1$ atom of oxygen, the assumption would be erroneous, for this oxide has no corresponding chloride, sulphate, &c., and it would be unlike other protoxides, in forming no compound with any acid. But all these properties belong to the oxide of silver composed of $8$ atoms of oxygen and $10$ silver; in this case the oxide containing most metal is considered as a protoxide, composed of $2$ atoms oxygen $+ 3$ atoms silver $= 30$. To generalize this rule the rule may be relied upon, that the metallic oxide which contains least oxygen is the protoxide, and that weight of the metal which combines with $8$ by weight of oxygen, denotes the weight of its $2$st, and their united weight of the oxide.

It will be observed, with respect to the compounds of oxygen and copper, that the second portion of that element which unites with one of the same quantity of the metal, is double the first. Now upon this foundation is founded one of the most important and beautiful peculiarities of Dr. Dalton's theory, sometimes described as the doctrine of the multiplier. In the case just alluded to, the second portion of oxygen is precisely double the first; but there are some cases in which the greater proportions are not multiples of the less, by any entire number: for example, there are two well-known oxides of iron consisting of

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>8</td>
</tr>
<tr>
<td>Iron</td>
<td>28</td>
</tr>
</tbody>
</table>

The first of these is the protoxide, and the second the peroxide; but it will be observed, the second of oxygen is only one-half greater than the first, instead of double, as happens with respect to copper. In fact, the multiplication is equal to only half an atom of oxygen; but as the number of dividing a number is not always divisible, the difficulty is overcome by multiplying both the oxygen and the iron, in which case we shall have $12 \times 8 = 24$, or $3$ atoms of oxygen, combined with $28 \times 2 = 56$, $3$ atoms of iron, and these proportions are perfectly consistent with the theory.

Other cases of apparent anomaly occur: thus there are three oxides of lead, viz.,

<table>
<thead>
<tr>
<th>Protoxide</th>
<th>Peroxide</th>
</tr>
</thead>
</table>

**Lead**

The first and last of these oxides are constituted exactly as the oxides of copper, are the second possessed of oxygen being double that of the first; but the red oxide of lead is composed of an atom of metal and such a quantity of oxygen as is equal to one atom and a third. If, then, both the oxygen and metal be multiplied by $3$, we have a compound of $4$ atoms of oxygen and $3$ atoms of lead, or $32 + 315 + 324$, and it is found that these $344$ parts of red lead be treated as if they were only $224$, as is the case with protoxide $= 224$, which is dissolved, and $1$ atom of peroxide $= 129$, which remains undissolved, and is the state of a brown powder. This case, then, of apparent anomaly is removed by showing that the red oxide of lead is equivalent to, or perhaps composed of, the other two oxides, and is reducible into them.

The oxides of manganese offer a still more remarkable case of apparent irregularity of combination, and of the disposition of metallic oxides themselves to combine in definite proportions. There are five oxides of this metal, all of
which are resolvable into the protoxide and peroxide by the action of dilute sulphuric acid.

While on the subject of multiples, it will be proper to adduce one of the most remarkable and regular series of them presented to us. There are five compounds of oxygen and azote, viz.:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Molecular Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrous oxide</td>
<td>( \text{O}_2 \text{N} )</td>
</tr>
<tr>
<td>Nitric acid</td>
<td>( \text{HNO}_3 )</td>
</tr>
<tr>
<td>Hyponitric acid</td>
<td>( \text{H}_2\text{NO}_3 )</td>
</tr>
<tr>
<td>Nitric acid</td>
<td>( \text{HNO}_4 )</td>
</tr>
<tr>
<td>Nitrous acid</td>
<td>( \text{H}_2\text{NO}_2 )</td>
</tr>
</tbody>
</table>

In these compounds, it will be observed, to form a new compound, 1 atom of oxygen in every case added to the preceding quantity, and the atoms of oxygen combined with 1 atom of azote are 1, 2, 3, 4, and 5.

When some cases the hydrogen and in others the oxygen standard is assumed, there are others in which they may be employed indifferently: thus, of carbon 6 parts by weight is the largest quantity which combines either with 1 part by weight of hydrogen, or 1 atom, or with 8 parts by weight of oxygen, or 1 atom; it is therefore the atomic weight of carbon. But with sulphur the case is different; 32 is the largest proportion that combines with 1 of hydrogen, but 16 is the greatest quantity that unites with 1 of oxygen: notably, as its atomic weight for 32 taken, as indicated by the hydrogen unit, we should have no compound of 1 atom oxygen + 1 atom sulphur, which would occasion much more inconvenience than results from the halving of having a subhydride of sulphur, or, which is the same, a sulphate of hydrogen.

With respect to azote also, the atomic weight is fixed at 14, that being the largest quantity which combines with 8 of oxygen. There is only one compound of hydrogen and azote, viz. consists of 3 parts by weight of hydrogen and 14 by weight of azote; consequently, if we had taken the hydrogen standard, the atomic weight of azote would have been \( 14 \div 466 \), which would have greatly complicated the constitution of the compounds of oxygen and azote; but the alternative of supposing ammonia to contain 3 atoms of hydrogen instead of 1 atom is of secondary importance, though it must be admitted that it contravenes the rule laid down by Dr. Dalton, that 'when only one combination of two bases can be obtained, it must be presumed to be a binary one.'

The case in which the second portion of oxygen in an oxide, instead of being equal to the first, is only one-half greater, has been pointed out in the instance of the oxides of nitrogen, where, by the laws of submultiples, the existence of an oxide instead of a halfof an atom is considered to have been overlooked. There are, however, some cases, in which it is convenient to consider such oxides as containing an atom and a half, where it was considered to contain an atom; there is also a case, in which there are several instances in which oxides are commonly considered as containing a quantity of acid equal to an atom and a half, and these are termed "sequequials." The alkaline oxides, potash, and soda, and some other bases, form those compounds with the same acid: for example, we have

<table>
<thead>
<tr>
<th>Compound</th>
<th>Molecular Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbonate of potash, composed of 1 atom acid + 1 atom base</td>
<td>( \text{Na}_2\text{CO}_3 )</td>
</tr>
<tr>
<td>Bicarbonate of potash, 2 atoms acid + 1 atom do</td>
<td>( \text{NaHCO}_3 )</td>
</tr>
<tr>
<td>Bicarbonate of potash, 3 atoms acid + 2 atoms do</td>
<td>( \text{Na}_2\text{CO}_3 )</td>
</tr>
</tbody>
</table>

It is then evident that the last salt is equivalent to a compound of 1 atom acid + 1 atom base. Now if an atom of the second salt, be considered as a "sequequial", and the combining weight of nitrate of lime, double decomposition ensues, 1 atom of neutral nitrate of potash remains in solution, 1 atom of neutral carbonate of lime is precipitated, and carbonic acid equal to half an atom is expelled in the state of gas. With respect to its base, then, the combining weight of potash may be regarded as a neutral carbonate, though, as to its acid, as a sequequial; for if lime-water be added to an atom of a sequequial carbonate, carbonate of lime is precipitated equivalent to 1 atom.

These facts are sufficient to show that combining and atomic weights are not convertible terms, though they have been so employed. Thus the atomic weight of an anhydrous compound of 2 atoms carbonic acid and 2 atoms potash, is 167; considered as a sequequial carbonate, its atomic weight is 81; and its combining weight is the same with respect to an atom of nitric acid; but it is one-half greater as regards an atom of lime. The same remark will apply to bisalts; they must also be considered as having one combining weight for their acids and another for their bases.

It may now easily be made to appear how it happens that when two neutral salts decompose each other, the new salts obtained by the operation are also neutral; an atom of nitric acid weighs 44, and one of barytes 76, when combined 130 of neutral nitrate of barytes; 88 an atom of nitrate of potash is composed of an atom of sulphuric acid = 40, and an atom of potash = 48. Now when 136, or an atom of nitrate of barytes, dissolved in water, is mixed with a solution of 88, an atom of potash, double decomposition ensues, and two new and perfectly neutral salts are formed, viz., 1 atom of nitrate of potash = 102, consisting of an atom of nitric acid = 54, and an atom of potash = 48. In this remarkable solution, we have precipitated an atom of neutral sulphate of barytes = 96, and 1 atom of sulphuric acid = 40, and 1 atom of barytes = 76. The annexed diagram will show the constitution of the salts employed, and those formed by their mutual decompositions; it will be seen also that the weight of the new compounds is precisely equal to those of the original salts.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Molecular Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate of Potash</td>
<td>( \text{Na}_2\text{SO}_4 )</td>
</tr>
<tr>
<td>Bicarbonate of Barytes</td>
<td>( \text{BaCO}_3 )</td>
</tr>
</tbody>
</table>

Although the atomic theory, thus developed by Dr. Dalton in 1808, contained truths of the highest importance, quite independent of the hypothesis by which it was illustrated, it was not until after the appearance of Dr. Wollaston's Memoirs, On Super-acid and Sub-acid Salts, and On a Synoptic Scale of Chemical Equivalents, that chemists were fully impressed with the practical applications of which the theory was susceptible. In the first memoir (Phil. Trans, 1808), a memoir equally remarkable for its conciseness and clearness, Dr. Wollaston shows, that Dr. Dalton's theory, first applied to determining the constitution of gaseous bodies, is applicable to that of super-acid and sub-acid salts; and he proves that sub-carbonate of potash contains exactly half the quantity of carbonic acid existing in the super-carbonate, by showing that if the latter be acidified, it loses half its acid, and is reduced to the state of sub-carbonate by the loss; the same rule was found to exist with the sub-carbonate and super-carbonate of soda, the sulphate and super-sulphate of potash, and with three oxalates of potash.

The paper on the synoptic scale appeared in the Phil. Trans, for 1814. By this instrument the practical utility of the doctrine of definite proportions was most satisfactorily pointed out. This instrument consists of a movable scale of numbers on the principle of Gunter's scale, so that any number can be placed opposite the names of a series of substances in adjoining columns, arranged in the order of their combining weights; and if one number denote the combining weight of a body being placed opposite the name—10, for example, opposite to oxygen—the numbers expressing the combining quantities of others will appear opposite to their names; thus copper will be found opposite to 40, showing that this quantity of it combines with 19 of oxygen, and opposite to 50 will be found oxide of copper. By mere inspection, a great number of important results are obtained. If the composition of a substance with regard to its proportions to its elements is to be determined, the slider is to be so placed that the number 100, or any required number, is opposite to its name, and the respective quantities of the ingredients will be found opposite to their names, and the quantities of other compounds required to decompose them: for example, when placed opposite to sub-carbonate of potash, 37.5 will be opposite to carbonic acid, 59.1 to potash, 61.3 to oil of vitriol, 50 to dry sulphuric acid, and 11.3 to water.
and one volume of the vapour of carbon; and so with all other gaseous compounds of carbon.

Dr. Turner (Elements of Chemistry, p. 264) has well observed, that the simple rule in which volumes combine is peculiarly interesting, because it appears to indicate a close correspondence in the size of the atoms of gaseous bodies. It naturally suggests the idea that this peculiarity may arise from the atoms of elementary principles possessing the same magnitude. On this supposition, equal volumes of such substances in the gaseous form, at the same temperature and pressure, would probably contain an equal number of atoms, and the relative weight of a solid or liquid would depend on the relative weight of their atoms. The same numbers which indicate the specific gravity of elementary principles in the gaseous state would then express the relative weight of their atoms, so that the latter would be ascertained by means of the former, or the atomic weight of a solid or liquid represent the specific gravity of its vapour. The proportional numbers adopted by Sir H. Davy in his Elements of Chemical Philosophy, and the atomic weights employed by Berzelius in his System of Chemistry, were selected in accordance with this view. Thus, water, being formed of two measures of hydrogen and one measure of oxygen, is believed by Berzelius to consist of two atoms of the former, and one atom of the latter; and, for a similar reason, he considers the two atoms of nitrogen and one atom of oxygen. The atoms and volumes of the four elementary gases—oxygen, chlorine, hydrogen, and nitrogen—are thus made to coincide with each other. This method, though perhaps preferable to any other, has considerable faults. The chemists consider water, protoxide of chlorine, and protoxide of nitrogen, as containing each one atom of their elements; and, consequently, as those compounds consist of one measure of oxygen united with two measures of the other constituent, the atoms of oxygen must be supposed to occupy twice as much space as an atom of oxygen. An atom of oxygen is therefore represented by half a volume, and an atom of the other three gases by a whole volume.

In 1815, Dr. Prout published, in the sixth volume of the Annals of Philosophy, a paper 'On the Relation between the Specific Gravities of Bodies in their Gaseous States, and the Weights of their Atoms.' The observations offered in this memoir were the basis of his doctrine on the size of volumes just described. The author shows, that if atmospheric air be a compound of 80 volumes of oxygen and 20 of atomic gas, and their equivalents 8 and 14, then the specific gravities of these gases are—oxygen, 1:11; atomic gas, 0:925. Water weighs 0:9999; and hydrogen is 0:0894; that if we reckon the atomic weight of hydrogen 1:125, that of oxygen is unity. He also observed, that the atomic weights of bodies appear to be multiples of the atomic weight of hydrogen by a whole number. It was remarked by him, that in general the specific gravity of the body in a gaseous state may be obtained by multiplying its atomic weight by 0:9588, or half the specific gravity of oxygen gas, because the atom of oxygen is represented by half a volume, but that of most other substances by a whole volume.

Dr. Thomson (Attempt to establish the First Principles of Chemistry by Experiment, vol. i., p. 94), fully adopting Dr. Prout's views on this subject, says—'Every substance, of which I have procured a sufficiently quantity to enable me to examine it fully, has been not only a multiple of the atomic weight of hydrogen; but, if we except a few compounds into which a single or odd atom of hydrogen enters, they are all multiples of 0:25, or of two atoms of hydrogen. On this method of suspecting the truth of the views now before me, it will be evident that such a law would afford great facilities, as all fractional numbers would be avoided, hydrogen being reckoned unity. In this country the idea has been pretty generally adopted, and in this method of suspecting the atomic weight of substances we have been, however, been confused, as we have been by the researches of Dr. Turner, have thrown, to say the least, very great doubts on the accuracy of the general proposition made by Dr. Prout concerning the atomic weights of the elements.'
Before giving a table of the atomic weights of elementary bodies, it is proper to state the nature and weight of the standard from which they are reckoned, and the different terms employed to designate what—adopting the language of Dr. Dalton—we have described as an atom.

**STANDARD.**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen</td>
<td>1</td>
</tr>
<tr>
<td>Oxygen</td>
<td>16</td>
</tr>
</tbody>
</table>

Dr. Dalton, *atom*, hydrogen 1 oxygen 8.


Dr. Thomson, *atom*, oxygen 1 hydrogen 2.

Berzelius, *atom*, oxygen 100 hydrogen 125.

Dr. Henry, *atom*, hydrogen 1 oxygen 8.

Dr. Turner, *equivalent*, hydrogen 1 oxygen 8.

Mr. Faraday, *proportional*, hydrogen 1 oxygen 8.

Mr. Brans, *proportional*, hydrogen 1 oxygen 8.

The method of mutually converting the numbers of each standard into those of the other is too obvious to require explanation.

The use of the term atom has been objected to as hypothetical, because it is said that we have no means of ascertaining or judging the weight or magnitude of an atom of any element, and that any supposed relative weight of their atoms must therefore be a mere hypothetical assumption, from which no satisfactory conclusions can be drawn; and that it is better to confine ourselves to elements, terms, as above quoted, are substituted for the word atom, which is, however, intended to express merely the smallest division which is found of any element without decomposition.

The following remarks by Dr. Wollaston, in his memoir on the finite extent of the atmosphere (Phil. Trans. 1832), are strongly in favour of the atomic constitution of matter.

Dr. Thomson has, however, objected to this opinion, that the product of the weight of an atom by the corresponding capacity for heat of that atom is not a constant quantity; but that the weight of the same substance varies with change of form, or with variation of temperature without change of form. Added to which the weights of the atoms, as indicated by the specific heat, would be very materially different from those now adopted in many cases.

The beautiful experiments of Mr. Faraday on the absolute quantity of electricity associated with the particles or atoms of matter, prove that, for a given definite quantity of electricity passed, an equally definite and constant quantity of water or other matter is decomposed; and he concludes also, that the electricity which decomposes, and that which is evolved by the decomposition of, a certain quantity of matter, are alike. ‘The harmony,’ he observes, ‘which the theory of the infinite evolution and the infinite definate action of electricity introduces into the associated theories of definite proportions and electro-chemical affinity, is very great. According to it, the equivalent weights of bodies are simply those quantities of them which contain equal quantities of electricity, or equal quantities of electricity from equal electric powers; it being the electricity which determines the equivalent number, because it determines the combining force. Or, if we adopt the atomic theory or phraseology, then the atoms of bodies which are equivalents in each other in their ordinary chemical action have equal quantities of electricity naturally associated with them.’ (Phil. Trans. 1834.)

With respect to the utility of the atomic theory, we cannot do better, in considering this account of it, than to state, in the words of Dr. Daubeney (*Introduction to the Atomic Theory*, p. 87), that ‘it would be superfluous to enlarge upon the proofs already afforded, with respect to the greater precision it has introduced into the science—the wonderful saving of time and labour which is derivable from it, only by the philosopher in his more speculative inquiries, but even by the manufacturing chemist, in the every-day operations of his trade.’

It is evident that, in the present state of our knowledge, no sooner have we attained the exact proportion in which a new substance unites with any one of those bodies whose atomic weight is already determined, than we are enabled to calculate in what quantities it must combine with all the remainder, so that, instead of being required to repute every new occurrence would have appeared necessary, to analyze every existing combination, in order to determine the proportion of its ingredients, we might rest contented, were it not for the sake of obviating the chances of error in any single experiment, with ascertaining the composition of the out of

**Table of the Atomic Weights of Elementary Bodies.**

<table>
<thead>
<tr>
<th>Element</th>
<th>Atomic Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen</td>
<td>1</td>
</tr>
<tr>
<td>Carbon</td>
<td>12</td>
</tr>
<tr>
<td>Lithium</td>
<td>7</td>
</tr>
<tr>
<td>Oxygen</td>
<td>16</td>
</tr>
<tr>
<td>Boron</td>
<td>8</td>
</tr>
<tr>
<td>Silicon</td>
<td>28</td>
</tr>
<tr>
<td>Aluminum</td>
<td>27</td>
</tr>
<tr>
<td>Magnesium</td>
<td>23</td>
</tr>
<tr>
<td>Azoite</td>
<td>17</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>31</td>
</tr>
<tr>
<td>Sulphur</td>
<td>32</td>
</tr>
<tr>
<td>Fluorine</td>
<td>19</td>
</tr>
<tr>
<td>Glucum</td>
<td>25</td>
</tr>
<tr>
<td>Calcium</td>
<td>40</td>
</tr>
<tr>
<td>Zirconium</td>
<td>91</td>
</tr>
<tr>
<td>Sodium</td>
<td>22</td>
</tr>
<tr>
<td>Titanium</td>
<td>82</td>
</tr>
<tr>
<td>Nickel</td>
<td>58</td>
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<tr>
<td>Cobalt</td>
<td>59</td>
</tr>
<tr>
<td>Manganese</td>
<td>55</td>
</tr>
<tr>
<td>Copper</td>
<td>63</td>
</tr>
<tr>
<td>Tellurium</td>
<td>124</td>
</tr>
<tr>
<td>Chromium</td>
<td>52</td>
</tr>
<tr>
<td>Zinc</td>
<td>65</td>
</tr>
<tr>
<td>Chlorine</td>
<td>35</td>
</tr>
<tr>
<td>Yttrium</td>
<td>88</td>
</tr>
<tr>
<td>Arsenic</td>
<td>74</td>
</tr>
<tr>
<td>Potassium</td>
<td>39</td>
</tr>
</tbody>
</table>

It is to be observed, that it is not ponderable matter only which appears to obey the law of definite proportions; strong and Peter have inferred from the experiments of Maas, de Ch. et de PA. (vol. x.) that the atoms of simple substances have the same capacity for heat. Dr. Dalton has, however, objected to this opinion, that the product of the weight of an atom by the corresponding capacity for heat is not a constant quantity; but that the capacity of the same substance varies with change of form, or with variation of temperature without change of form. Added to which the weights of the atoms, as indicated by the specific heat, would be very materially different from those now adopted in many cases.

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[G2]
ATONEMENT. a certain mode of appeasing anger, and obtaining pardon for an offence. In the act of atonement, there is commonly understood to be a substitution of some thing offered, or of some personal suffering, for a penalty which would otherwise be exacted. The word is, indeed, applied colloquially to any expiation by punishment, whether voluntary or involuntary, consequent upon criminal conduct or error of judgment. Thus even the spendthrift is said to have atoned for his folly by the hardships endured in consequence of it, and the murderer for his crime by a public degradation, which is commonly thought to make atonement for the words and actions altogether indefensible.

In theology, it has respect to offence committed against the Deity; it is in the theological acceptance of the term that it will be considered in the present article. The subject in this article is the atonement connected with sacrifice. A sacrifice (σαρκις, σαρκισμός); but it is not identical with it. For it is not certain that all sacrifices had atonement for their object; and sacrifice, as commonly understood, was only one amongst other methods of atonement.

The practice of atonement is remarkable for its antiquity and universality, proved by the earliest records that have come down to us of all nations, and by the testimony of antient and modern travellers. In the oldest books of the Hebrew Scriptures, without noticing those earlier sacrificial systems, we find that they may be ascribed to a great number of expiatory rites where atonement is the prominent feature, occupying, in fact, a large portion of the four last books of the Pentateuch. In some cases the atonement was even for a living, Lev. xx. 22, or in this manner: Lev. iv. The Hebrew records contain also notices of the practice of atonement, independent of the Mosaic institutions, and connected with the religious opinions of the Hebrew people. The barbarous offerings to Moloch appear in the light of atonement, as in the writing of the god of the Babylonians, in the book of the Maccabees. The same offerings are noticed by Polykrates, and given to the same purpose, by the expiation of the present sacrifice. In the case of the scape-goat, Lev. xvi. 22; in others it had reference to a state of transgression, as especially in the case of the scape-goat, on the day of expiation. (Lev. xvi.) The offender again either atoned by his own personal act, or received the benefit of atonement by the act of another. (Lev. xi.) The Hebrew records contain also notices of the practice of atonement, independent of the Mosaic institutions, and connected with the religious opinions of the Hebrew people. The barbarous offerings to Moloch appear in the light of atonement, as in the writing of the god of the Babylonians, in the book of the Maccabees. The same offerings are noticed by Polykrates, and given to the same purpose, by the expiation of the present sacrifice. In the case of the scape-goat, Lev. xvi. 22; in others it had reference to a state of transgression, as especially in the case of the scape-goat, on the day of expiation. (Lev. xvi.) The offender again either atoned by his own personal act, or received the benefit of atonement by the act of another. (Lev. xi.) The Hebrew records contain also notices of the practice of atonement, independent of the Mosaic institutions, and connected with the religious opinions of the Hebrew people. The barbarous offerings to Moloch appear in the light of atonement, as in the writing of the god of the Babylonians, in the book of the Maccabees. The same offerings are noticed by Polykrates, and given to the same purpose, by the expiation of the present sacrifice. In the case of the scape-goat, Lev. xvi. 22; in others it had reference to a state of transgression, as especially in the case of the scape-goat, on the day of expiation. (Lev. xvi.) The offender again either atoned by his own personal act, or received the benefit of atonement by the act of another. (Lev. xi.)

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In this case the offence was involuntary; yet it was not the less supposed to be an excuse to expose the offender to punishment. Here too is an instance of atonement unaccompanied by sacrifice. The mode, indeed, of atonement admitted an almost infinite variety. Even the repetition on a certain occasion of the great games at Rome was strictly an act of atonement for a rather singular offence described by Livy, lib. ii. c. 36.

If we pursue our inquiries through the accounts left us by the Greek and Roman writers of the barbarous nations we shall find the same notion and similar practices of atonement. From the most popular portion of our own literature, our narrators of voyages and travels, every one probably, who reads at all, will be able to find for himself the cases in which the atonement of the offender is universal. It shows itself among the various tribes of Africa, the islands of the South Seas, and even that most peculiar race, the natives of Australia, either in the shape of some offering, or some mutilation of the person. We should expect to meet with it in India, so fertile in every form of superstition; and it is certain that many of the fantastic and revolting rites of the Hindoos bear testimony to its presence. The favourite practice of torturing the body has often there a different object, that of acquiring the reality or the fame of superior sanctity; but undoubtedly it is also resorted to as a mode of atonement.

It has been supposed that the sacrificial rites of the heathens and their practice generally of atonement are but an imperfect remnant of a far more ancient and universal institution. It is an earlier period of the world, in a purer state of religious knowledge, and which indicated a consciousness of the actual relation in which man stood to his Maker, and painted darkly at the means by which an abomination of condition could be offered to be expiated. It would be impossible to avoid all but universally acknowledged by the believers in revelation, that the Levitical atonements were, in part at least, typical of that one great sacrifice on which the Christian religion is founded. The reforming party and limits of this publication do not allow us to consider this part of the subject at a length and in a manner suited to its importance. We can do little more than state what is understood by the Christian when he speaks of the atonement. He does not consider man, according to the heathen notion,
already mentioned, to be the object of a capricious and
wanton enmity, but through a sinfull nature, and practices
and affections conformable to that nature, to have come into
to a state of alienation from God; in other words, he believes
that God, in his wisdom, has so adjusted the details of his
being and condition, that man may never know when or
where he may be punished; this being his condition, he fur
ther believes that the Divine Being, revealed to us under
the title of the Son of God, interposed between the sentence
and its execution, suffered in our stead, and atoned by his
death for the imputations of sin, is the remission of the original
sentence, and restoration to a state which is still probationary,
but in which man is made capable of a permanent reunion
with his Maker. The be
lief in the doctrine of the atonement supposes that the sin,
which was imputed to Adam, and which is talked of as a fixed
and certain sin, is the sin of God (which law he also supposes to be
revealed to us) that sin must be atoned for before it can be par
doned; but he distinguishes between the necessity of the sacri
cifice itself, and the further purpose of God in causing it to be
publicly made, and providing that it should be uni
versally known. He supposes the knowledge of the fact to be
necessary to the formation of the Christian character, and
its moral consequences to be, a deeper sense of the
torment of sin; whereas there might otherwise be danger lest
that should be lightly accounted of which appeared to have
been lightly forgiven; and also a new and powerful motive
to a love of the Supreme Being, supplying a remedy for
the infirmities of all other love, which might otherwise have
resulted from the concurrence of those motives to obedience
were the hope of reward and the fear of punishment.

We have endeavored to state the doctrine of the Atonement
in such terms as would be accepted by all, who acknowledge
the doctrine of the Son of God and the sacrifice. It is
well known, however, that among those who would concur in the
general statement, there would be found minor differences of opinion, particularly as to the universal
extent of the sacrifice. [See Calvin.] We have also without qualification called the doctrine in question a doctrine of the Christian religion;
though we are well aware that there are some whose views of
the gospel dispensation and whose interpretation of scripture
may differ; whilst fully admitting the divine origin of our
religion, to reject as unscriptural the doctrine of the atonement.
But these would themselves readily acknowledge, we believe, that they are comparatively few in number.

With respect to some few in early times, such as
Theodotus the tanner, and Paulus of Samosata, we rather refer from their peculiar notions concerning the person
of Christ, than from any direct evidence, that they disented, in this particular point, from the general belief. The most profitable and useful topic of the doctrine
was then more fertile in unmeasured veneration than in full and clear statements of the opinions attributed to
opponents.

To those, according to the vulgar etymology, is to set at
one's ease, to reconcile; hence atonement is etymologi
gally explained at one-ment. Whether this derivation is
right or not, reconciliation seems to have been the primary
meaning of atonement with our earlier writers. Hence in
the authorized version of the New Testament the same word
which in 2 Cor. v. 19 is properly rendered reconciliation, is in Rom. v. 11 rendered atonement. The word, how
ever, soon came to bear the meaning in which it is now used;
and such is in fact its ordinary meaning in the au
thorities of a later date.

Atoo or Atowai, one of the group of islands in the
North Pacific Ocean, which was discovered by Cook on
his third voyage, in January, 1778, and which he named the
Sandwich Islands, in honour of the then First Lord of the
Admiralty.

Atoll is situated in 21° 37' N. lat. and 146° 20' W. long.
The island is ten leagues in length from east to west, and
is much broader at the east than at the west end. On the
eastern side the surface rises with a gentle ascension, but on
the western side there is a steep descent from the west side
elevations about the centre of the island, which is 7300 feet above the level of
the sea. The high ground is covered with lofty trees, the
foliage of which is very luxuriant, but the coast on the eastern side is nearly level, and nearly without
habitants. On the western side the land is fertile, and produces abundantly all the vegetables furnished by the
islands of those seas.

There is reason to believe that when Captain Cook first
arrived at Atooi the natives looked upon his visit as the
fulfilment of a tradition or prophecy, which led them to
expect the return among them of a chief who had long ago
disappeared, under mysterious circumstances, from the Andes, and whose
return in after times was foretold, when he should present himself on an island bearing coco-nut trees, and swine,
and dogs. Accordingly, as soon as the ships were anchored,
a priest repaired on board, and decorating Cook with red cloth, such as adorned their deities, offered him a cup
in the manner of sacrifice, and pronounced a long and
to the Europeans present, an unintelligible discourse.
When he landed, the people either withdrew respectfully
from sight, or prospered themselves on the ground before
him according to a known custom.

On the south-west side of the island, and about two
leagues from the west end, is a tolerably good roadstead and
watering-place, called Wymoe. To the eastward of this
anchorage a shoal projecta, on which are rocks and breakers,
and the road is exposed to the trade-wind.

Some strongly suspicious circumstances which occurred
at the time of Cook's first visit to Atooi, induced him to be
of opinion that the inhabitants were cannibals. The more
intimate knowledge we have since acquired of their habits and
dispositions leads to the belief that Cook was mistaken
in this respect. There is not the least trace of so barbarous
a custom to be discovered. It is doubtless true that human
sacrifices were offered by some of the people; but although a great part of their religious ceremonies con
sisted in feasting, it is not now believed that they use any
part of those human sacrifices.

When they were first discovered, each of the principal
islands upon the coast of South America was the possession of its own
Erie chief (of chiefs), and it was not until 1817 that this
island was finally conquered, and the whole of the seven
islands were brought under the dominion of King Ta
namewa.

Captain Cook computed the population of this island,
from such data as he could then obtain, at about 30,000;
but it has since been ascertained that this computation
was probably below the truth, and that the number of the
inhabitants is about 14,000. Cook's Third Voyage round the World; Vancouver's Voyage, vol. i.;
Voyage of H. M. Ship Blende to the Sandwich Islands in
1824, 1825.

ATONI, or ATAOII, a tribe of Nomadic Arabs,
placed, according to Burckhardt, between the Nile and the
Red Sea, in Middle Egypt, between 26° and 26° N. lat.
They border on the Ababde towards the south, with whom
they are enemies, and from whom they have taken away
several flocks of sheep. [1448.] In 1449, to the north of
Kenneh and Kossir on the Red Sea, which privilege the
Atöni now farm from the pacha. To the north, the Atöni
are bounded by the Maasy and the Beni Wassel Arabs,
who live on the borders of the province of Atöni, and north
wards toward Duffy. (Burckhardt's Travels in Nuba, and
Map.) [See Abami.

ATORKOU. [See Kurile Islands.]

ATRAGENE. [See Clematis.]

ATRATO is the name of a river in South America, in
the republic of New Granada, and in the department of
the Rio Cauca, of which latter it drains the northern part,
called the province of Chocó. It is formed by the union
to several small rivers, Rio Quito, Rio Andagoya, and Rio
Rio, which joins it in a more southern latitude, in 8° 15' N.
at., and soon join one another. It runs nearly straight
from south to north for upwards of 150 miles; its mouth
is in the bay of Chocó, the most southern part of the
Gulf of Darien, near 8° N. lat. Traversing a narrow valley,
which is embosomed between two ranges of high Andes, and for
two-thirds of the year is drenched by almost continual
rains, the Atrato brings down a greater quantity of water
than would be supposed from the length of its course;
and, according to the calculation of the observers, the
river is 2,200 feet wide. Just at its entrance into the sea
are seventeen small islands, lying in two lines. It is navigable
only for a short distance from its mouth for European
vessels.

The country drained by the Atrato and its affluents
is extremely mountainous, and does not contain a level tract
of any extent, except at its mouth. The mountains are
covered with forests almost inaccessible, and the narrow val-
leys, on account of the almost continual moisture of the air, are marshy, and so frequently overflowed, that the inhabitants find it necessary, in many places, to build their houses upon trees, in order to be elevated at some distance above the surrounding marshes, which are frequently inundated with the putrid waters. It therefore cannot be a matter of surprise that this country has remained in nearly the same condition in which it was at the beginning of the sixteenth century, when discovered by the Spaniards under Roderic de Guzman and Alvar de Ojeda. But as the adjacent mountains contain rich mines of gold, and the Atrato and all its affluents bring down from them gold dust, a few Europeans have settled on the banks of the river, who cause considerable quantities of gold to be mined by their slaves, who are working in the gold mines of the rivers. The native Indians, too, pay the taxes imposed upon them in that metal. The mines are at present not worked, and agriculture is almost entirely abandoned, though it is said that the valley contains many fertile tracts.

The Atrato river, which is also called Darien and Chocó, has obtained some historical celebrity: the first European settlement on the continent of America was founded not far from its mouth in 1516, by Vasco Nuñez de Balboa. It was called Santa Maria el Antigua, and abandoned for Panama in 1618, on account of the insalubrity of the air. At present its site is almost unknown.

In our times the Atrato has acquired another sort of celebrity, the means by which the only existing water-communication between the Atlantic Ocean and the Pacific has been effected. One of its sources, the Rio Quito, rises near the source of the Rio San Juan, or Rio de Nauyaca, and runs a hairy course through the Quebrada, and the Rupas. In this ravine the curate of the village of Novita made his parsonishers dig a little canal, which is navigable during the heavy rains, and thus the canoes of the Indians carry the cocoa, the most important of the agricultural products of the adjacent country, from the mouth of the Rio San Juan to that of the Atrato. This canal, which was made in 1788, unites two points, which are respectively on the Atlantic and the Pacific Ocean, and are about 12 degrees of latitude from one another. (Alcedo, Humboldt.)

ATRIUM, HATRIA Pice'na, a town of the province of Teramo or Abruzzo Uitra L., in the kingdom of Naples, situated on a hill near the river Matrina or Piomba, and between that and the river Vomano, and about four miles distant from the coast of the Adriatic. It is 12 miles S.E. of Teramo, and near, though not upon, the high road from Teramo to Naples. Atri gives the title of Duke to a Neapolitan family. The ancient Hatria was once of considerable importance; it is included by the Roman geographers in the province of Picenum, being in that part of it which was inhabited by the Praetutii. It was called Hatria Picena, to distinguish it from the Hatria or Hatria of the Veneti. (See Apulia.) They were both colonies of the Etruscans, who had also in the Picenum the colonies of Cupra Maritima and Cupra Montana. Medals and coins have been found near Atri bearing effigies of fishes, anchors, and other marine symbols, with the legend HAT. The harbour of Hatria was at the mouth of the river Matrinius. The Syracusans, in the time of the elder Dionysius, sent a colony to Hatria, and some of the coins of that town are marked with the Pegasus, which was the symbol of Syracusans. (Delphi, Numismatica della città d'Atri nel Piceno.) Philistus, the historian, being banished from Syracusus by the elder Dionysius, took refuge at Hatria (Eic rör 'Adiaw), which we must suppose to be Hatria Picena, as this town had received a Syracusan colony: here he probably wrote the greatest part of his history. (Plutarch, Dion. xi.) Hatria afterwards became a Roman colony. The family of the Emperor Hadrian was originally from this place. (Spartian. Hadrian.) From the ancient town hardly anything remains now. The present town of Atri is a small and poor place; it was once surrounded by walls, which have partly fallen to ruin.

ATRIUM, or ATRIUM, a village in Lower Egypt, near the eastern branch of the Nile. It is the Atrites (populi Atrici, Lib. 1663); borders of stone, which have been observed here, probably indicate the site of a temple, parts of which may still be buried.

ATRISKO, or ATRIKANISKO, one of the four large islands in the icy sea, which lie off the coast of Siberia, and to which the name of New-Siberia, or Lacchoff islands, has been given. (See New Siberia.)

ATRIOUM, a hall or room of audience in a Roman house. The two words, Atrium and Caueodium, if not at first synonymous, most probably became so in the course of time. It appears from a passage in Varro, that the Cauveodium, or Cauveum Abdium, 'the hollow of the house,' must be the whole area between the rim of the compluvium from which the rain fell, and the impluvium into which the rain fell. The Atrium, properly so called, and as at first distinguished from the Cauveodium, would be the space between the open area and the walls (parietes) of the Atrium: thus the Cauveum Abdium would be the hollow space open to the sky and rain, while the Atrium would be the covered part, and would therefore form the hall or room of audience. If our conjectures, founded on this obscure passage of Varro, descriptive of the parts of a Roman house, be correct, we would suggest that the compluvium means rather the rim or gutter from which the rain fell [see House, Roman House] than the whole area of the open space over the impluvium.

The term Atrium is derived, according to Varro (Ling. Lat. iv.), from the Atriates, a people of Tuscany, from whom the pattern of it was taken. It was the most important and usually the most splendid apartment of a Roman house. Here the owner received his crowd of morning visitors, who were not admitted to the inner apartments. Originally the Atrium was the common room of resort for the whole family—the place of their domestic occupations; and such it probably continued in the humbler ranks of life. It consisted of a large apartment roofed over, but with an opening in the centre, called compluvium, towards which the roof sloped so as to throw the rain-water into a cistern in the floor called impluvium. Vitruvius distinguishes five species of Atria.

1. Tuseanum, or Tuscan Atrium, the oldest and simplest of all. It was merely an apartment, the roof of which was supported by four beams crossing each other at right angles, the included space forming the compluvium. Many of these remain at Pompeii.

2. The Tetrasyle, or four-columned Atrium, resembled the Tuscan, except that the girders, or main beams of the roof, were supported by pillars, placed at the four angles of the impluvium. This furnished means of increasing the size of the apartment.

<table>
<thead>
<tr>
<th>Tetrasyle Atrium</th>
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<tr>
<td><img src="image" alt="Plan of a Tetrasyle Atrium from a house at Pompeii." /></td>
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</tbody>
</table>

3. The Corinthian Atrium differed from the Tetrasyle only in the number of columns and size of the impluvium. A greater proportion of the roof seems to have been left open.
ATROPA. A genus of dicotyledonous plants belonging to the natural order Solanaceae, and consisting for the most part of poisonous species. It is distinguished from other genera of the same natural order by its regular bell-shaped corolla, its five-parted permanent calyx, which never acquires a bladdery appearance, and by its succulent fruit. The species of most common occurrence is the following:

Atropa belladonna, deadly night-shade, or dわle, is found not unfrequently in thickets and hedges in this country. The whole plant is of a lightish green colour, except the flowers, which are large and of a dingy brownish-purple, and the berries, which are of the rich deep black of black cherries. The root is perennial, the stem grows about two feet high, and the leaves are acute, with an obtuse figure, tapering to each end. The flowers are bell-shaped, larger than those of the harebell, and placed singly in the bosom of the leaves. The border of the corolla is cut into five equal lobes; there are five stamens, a tapering pistil with two cells, and many seeds in the ovary, a long slender style, and a flattened stigma slightly divided into two lobes. The odour of the whole plant is nauseous and oppressive, as if to warn us of its venemous nature. It is in the leaves, root, and berries that the poison resides, and particularly in the berries, which, from their resemblance to cherries, have often been eaten by children, with fatal consequences. The active property of belladonna, though most commonly remarked in the fruit, exists also in the leaves, and especially in the roots, both of which have the same property.

They have nevertheless been frequently employed medicinally, and extract of belladonna is one of the most energetic preparations in the modern materia medica.

Arctopha Mandragora, or mandrake, is another species still more venomous and dangerous than the last. It is found in many parts of the south of Europe, particularly in the Grecian islands, where it is common. Its root is a large dark-coloured fleshy mass, often divided into two or three forks, which have been fancied to resemble a human body; this circumstance, and its well-known poisonous qualities, gave it, in the days of popular ignorance and credulity, the reputation of being endowed with animal feelings; the roots were said to shriek when torn from the earth, and it was accounted dangerous to disturb them. Even now the young Greeks are said by Sibthorpe to wear small pieces of them as love-charms. This remarkable plant has no appe-
This species is admitted into the Pharmacopoeias of this country, and is employed in the form of dried leaves, or of an extract. Its action on the human system differs according to the quantity taken. If the dose be small, a quickening of the heart's action follows, and an increased quantity of blood is sent to the brain. In this case it has a stimulating effect; but if the dose be larger, though some stimulating action is for a short time apparent, a sedative effect of a very powerful kind ensues. During the first stage, excitement of the heart, the brain, and the intellectual faculties, is manifest: this is succeeded by greatly diminished sensibility, perhaps most markedly observable in the extreme dilatation of the pupil, and the insensibility of the stomach to the stimulus of emetic substances. The spinal cord would appear not to be directly influenced by the drug, but to suffer at last from the impaired state of the function of respiration, and the consequently deteriorated condition of the blood. Convulsions, therefore, only occur late in cases of poisoning by this article. It deserves to be remarked, that the delirium accompanying the action of an overdose of belladonna is always of a gay, elevated kind; a red eruption, or efflorescence, on the skin is also generally observable. The nausea and vomiting are unaccompanied with much pain of the stomach; nor do the stomach and intestines present many traces of inflammatory action. The nausea and vomiting seem to be the result of the condition of the circulation in the brain, the gorged state of the vessels of which is rendered obvious by inspection after death.

The action of belladonna is ascribed to an alkaloid which it contains, called atropia, which exists in combination with maleic acid.

The cases in which belladonna may be advantageously employed are, diseases of increased sensibility of the nerves, particularly local affections of these, such as tic douloureux and other pains. It has also been recommended for the cure of scrofulous and cancerous tumours, and is employed to dilate the pupil in certain states of diseases of the eye. In the first set of cases, it may be employed either internally or externally. In tic douloureux, given internally along with arsenic acid, it often affords speedy and lasting relief. In the passage of gall-stones through the gall-duct, stones from the kidney, applied externally over the painful part, it gives great ease.

Its employment in cases of scrofulous and cancerous enlargement of the glands is likewise either internal or external. That it relieves the pain attendant on such affections is unquestionable; but it cannot be used to effect the cure of these with safety. It undoubtedly changes the process of deposition throughout the whole body, and also in morbid structure, into one of absorption—as is proved by the diminished solidity and increased fluidity of the body, as observed in cases of poisoning by it, where the great quantity of fluids favours the decomposition of the bodies which have died from its influence, and in which putrefaction always takes place very soon. But an equal degree of benefit may be obtained from the employment of antimonal preparations, without the danger which attends the use of this plant.

Its employment in the form of extract rubbed over the eyelids, to dilate the pupil previous to the operation for cataract, is an usual step, but requires caution: the same remark is applicable to its use in the form of solution dropped into the eye during inflammation of the iris. In both these cases it is liable to be absorbed in too great a degree, and cause alarming symptoms.

Belladonna has been recommended as a useful sedative in the latter stages of hooping-cough. But though it lessens the violence of the spasmodic action, the same degree of benefit may be obtained from hydrocyanic acid, without the liability of inducing that action of the vessels of the brain which ends in hydrocephalus. (See Gelse on Hydrocephalus.) Belladonna has also been proposed as a preventive of scarlet fever; but it is by no means certain to ward off this disease, while it is almost sure to induce hydrocephalus. Other preventive measures of a safer kind should therefore be had recourse to.

In case of poisoning by it, if taken into the stomach, the most immediate means should be employed to remove it. For this purpose the stomach-pump is best. Emetics can seldom excite the stomach to any expulsive action; in ordinary instances, fourteen grains of tartrate of antimony have been given without any effect.

Vinegar should not be given so long as any of the bella-
4. But the food when digested has a long course to travel before it reaches the blood. It must be taken up by the lactic vessels, and be carried through the mesenteric glands. [See Digestion.] It is probable that these organs are not mere channels of communication between the stomach and intestines and the lungs, but that they enforce some change upon the imperfectly-digested aliment, as it passes through them. Certain it is that disease of these organs powerfully influences the process of nutrition, and produces a great degree of wastage. Examples of this are too abundant in infants and children to be passed over in great numbers by diseases which, on examination of the body after death, are found to have their chief seat in these organs. [See Malaria.]

5. Disease of the organs of assimilation interrupts nutrition just as effectually as disease in the primary organs of digestion. It is not until the digested aliment reaches the lungs that it is converted into blood. The lungs finish what the stomach begins; and the function of respiration is the completion of that of digestion. Any thing that impairs the function of respiration must therefore necessarily impair that of nutrition, and produce a proportionate degree of wasting. The lungs have this peculiarity, that they are the first to be attacked by the process of degeneration, the obliteration of one part after another, in successive operations: the parts oblitered of course cease to contribute their share to the conversion of the aliment into blood; but the parts not oblitered continue to do so pretty much as in health, and it is possible to breathe the atmosphere, one lung, or with only half a lung; and the flame of life may, for a short time, be barely kept alive by a portion of even half a lung. The consequence is that, in certain instances of the lungs, emaciation is carried to the utmost extent which no means can be compatible with the maintenance of the smallest particle of life.

6. But the process of nutrition is not completed even after the aliment is converted into blood. There still remains what may be termed the function of appropriation. After their conversion into blood in the lungs, the new particles are returned to the left side of the heart, whence they are carried out to the system by the larger trunks of the arterial vessels. These tubes terminate in a system of vessels of extreme minuteness, called the arterial capillaries, which are the true appropriators of the new particles prepared for them in the lungs, the architects and masoms of the system, by which the new particles are deposited in the room of the old in the respective organs, and by which the waste is repaired. If the capillaries of the system fail to perform their duty, no matter what quantity or what quality of nutritive matter be brought to them, the function of nutrition is suspended, and the body wastes; and, in the same manner, if, by some external or internal cause, the nutrition of that particular part be at an end, and consequently its bulk diminish.

7. It is chiefly in consequence of the disease of these capillary vessels that acute diseases, such as inflammation and fever, are accompanied. It is on this account, i.e., the fact of wasting, although there is always, combined with this, disturbance of the digestive functions; so that in acute diseases nutrition is interrupted in a two-fold mode, by diminished digestion, and by imperfect appropriation of what is digested.

8. But a due supply of nervous influence is as indispensable to nutrition as a due supply of arterial blood. Whenever therefore the capillary vessels do not receive their proportional share of nervous influence, the waste continues to exceed the production; whatever injures the nerves in such a degree as to impair their functions is invariably found to occasion atrophy. If the nerves which supply a part waste, that part immediately begins to diminish in bulk: if a part has been long wasted, the nervous supply is so small that they can scarcely be traced. If the head of an unremoved diseased bone press upon the large trunk of a nerve, the parts to which the nerve is distributed waste. If a poison causes a disease of the nerves, as lead, by groaning and slowly introduced into the system, the body wastes; an example of which is seen in the atrophy commonly attendant on the disease termed the colica pectoris, the colic of painters. As will be sufficiently shown elsewhere, this is exactly the remedy of nerves that supplies the nervous influence indispensable to nutrition. Injury to the sentient system may indeed occasion atrophy; but it produces this effect indirectly;
whereas injury of the organic system produces it directly, by arresting the nutritive functions: and accordingly, the degree of atrophy arising from diseases of the brain and spinal cord is always very much less than that which is consequent on destroyed or impaired function of the organic sense.

9. Finally, cessation of function, from whatever cause, is manifestly and invariably followed by wasting of the organ in which the function had its seat. The gland that does not secrete, the eye that does not receive and transmit impressions, or convey its wrought stimulus, wastes; and the muscle that does not contract dwindles away; while increased exercise contributes exceedingly to the augmentation of its volume, as we see in the bulk of the arm, and the eye, and the leg of the opera-
dancer. From the complete and long-continued cessation of action, the substance of organs is sometimes almost entirely removed; nothing remaining by which its original structure can be distinguished.

Such are the most obvious and common causes of wasting, the detection of which, it is obvious, must precede any rational treatment of the affection. It can be cured only by the application of the appropriate remedy to the morbid state of the organ of disease; or if that has not been discovered, by the cause will easily and surely remove the malady.

ATROPIA, a vegetable alkaloid discovered by Brandes in the juice of the atropa belladonna, and in which the well-known poisonous qualities of the plant reside. It may be obtained by treating the decoction of the weed with naphthenic and volatile acids, and digesting the precipitate in alcohol, which dissolves the alkaloid in question. Brandes procured it also by adding sulphuric acid to the decoction, filtering the solution, supersaturating with potash, filtering again, dissolving the precipitate in boiling water and crystallizing the solution.

The crystals are long, transparent, colourless, brilliant needles. Atropa is insoluble in cold water, and very slightly dissolved by water and boiling alcohol. It forms with 99 per cent of the solvents readily crystallizes; and the saturation power is so great, that 107.5 parts of it neutralize 100 parts of sulphuric acid. During the evaporation of a salt of atropa, so great a quantity of it is evaporated, that the vapour occasions an enlargement of the pupil of the eye and its inflammatory action continues several hours. Brandes supposes that the atropa exists, in part at least, in the state of malate in the plant. When atropa is heated in a solution of potash or soda, ammonia is abundantly evolved.

According to Liebig, this alkaloid consists of

<table>
<thead>
<tr>
<th>Atom</th>
<th>Formula</th>
<th>Molecular Weight</th>
</tr>
</thead>
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<tr>
<td>Azote</td>
<td>177.036</td>
<td>23.1539</td>
</tr>
<tr>
<td>Carbon</td>
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<td>92</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>187.194</td>
<td>50</td>
</tr>
<tr>
<td>Oxygen</td>
<td>300.0</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>99.93</td>
</tr>
</tbody>
</table>

ASTHIINSK, or ACHINSK, a very thriving town, formerly the capital of the circle of that name, but at present occupied by the city of Kazan, in the province of Tobolsk, in Siberia. It is situated on the Atash and Tobolya, the latter of which, on leaving the town, runs in a northerly direction, until it falls into the Ob. It lies at a distance of about 390 versts (240 miles) from Tobolsk, and about 200 versts (130 miles) from Tomsk, in 54° 32' N. lat., and 90° 56' E. long. (Beau.) Though only founded in 1792, it is gradually becoming an important place of transit for inland trade, and takes so small share in the traffic of the Ob and Tobol, that to the greatest extent of communication with Tobol through the Ob and Tobolva.

The ascus in vesicula is so fertile a description, that the seed soon on it usually produces thirty-fold; husbandry is only the principal pursuit of the inhabitants, who supply largely in corn and all the necessaries of daily life, and are happy when they possess any of their own growth. The inhabitants consist either of criminals or Telesium Tartars.

ATTACA, in nuncia (Ital. to speak for), denounces, that the next momentum is to follow immediately, without any pause. In the language of the old contrapuntists, attaco signifies a short, irregular subject, not liable to the severe laws of fugue.

ATTACHMENT, FOREIGN. This is a judicial proceeding, by means of which a creditor may obtain the security of the goods or other personal property of his debtor, in the hands of a third person, for the purpose, in the first instance, of enforcing the appearance of the debtor to answer to an action; and afterwards, upon his continued default, of obtaining the goods or property absolutely in satisfaction of the debt. The remedy in England is limited entirely upon local customs, and is an exception to the general law of the land.

It exists in London, Bristol, Exeter, Lancaster, and some other towns in England; and a mode of securing the payment of a debt by a proceeding against the goods in the hands of a third person, is resembling the pro-

cess of foreign attachment, with some modifications, and under different names, forms a part of the municipal laws of Scotland, Holland, and most European countries in which the civil laws prevail. In Scotland, it is called arrestment. (See Bell's Commentaries on the Laws of Scotland, vol. ii.) Many remarks upon the Scotch practice of attaching property, called arrestment, will be found in the examination of Mr. William Bell, in Appendix D to the Fourth Report, the Constable's Day. The affiant of In, a process of this kind exists under the name of saisie-arrêt; the regulations respecting it will be found in the Code de Procedure Civile, partie I., livre 3, tit. 7.

The custom of foreign attachment in London differs in no material respect from that of the Scotch law; but in the years since the year 1820, 201 have been cases of attachment; and in many instances, very large sums, amounting to several thousand pounds, have been recovered in this manner. In the sher-

iff's court the cases of attachment have not been so nu-

mrous.

As this customary proceeding is of great importance to the commercial interests of the inhabitants of the metropolis, and is not generally understood, it may be worth while to give some account of it; for in the event the action, makes it, in the first instance, an affidavit of his debt, which must have been contracted within the city of London or its liberties, and should be actually due, as it is doubtful whether an attachment can be made upon a con-

tracts paper, or chattel, which is not in the hands of the goods or property of the defendant, as of the person in whose hands the goods or property is, and without it all the subsequent proceedings on the attachment would be invalid; in point of fact, however, where an attachment is intended, the officer never attempts to sum-

mon the defendant, or gives him any notice of the action, but merely makes his return to the warrant as a matter of course. After this return, a suggestion is made, or supposed to be made, by the plaintiff to the court, that some third person within the city has goods of the defendant in his posses-

sion, or in the hands of or out of his hands, and the plaintiff requires that the defendant may be attached, until he appears to answer to the action brought against him. The attachment is then effected by a notice or warrant served by the officer of the court upon the third party, who is inquired after in the general formation of the defendant, to "guard" (to warn), from whence garniture, or vulgarly, garnishes (the person warned), informing him that the goods, money, and effects of the defendant in his hands are attached to answer the plaintiff's action, and that he (the third party) must forthwith deliver up the goods, money, and effects of the defendant, to the officer of the court. After this warning, the effect of which is to secure the property in the hands of the garnishee, the process again returns, or in principle ought to return, to the de-

fendant, who must be publicly called and made default within a certain time, and the suit can be taken against his goods. In practice, however, no
process is served upon the defendant either at this or any other stage of the proceeding; nor is it ever in fact called, notice of the action or the attachment being, according to the present practice, never actually given to him. After the four days have elapsed, the plaintiff is summoned to show causes why judgment should not be given against him for the goods or debt formerly attached in his hands. He then either appears and pleads, or he moves the court to determine the attachment; money, or a debt ascertained, the judgment of the court is final in the first instance, and execution may be issued at once for the sum demanded. But where the subject of the attachment is goods, a formal sale must take place in Thames-street; the purchaser pays in which the action is pending by two freedmen, who are sworn for the purpose; and judgment is then given for the goods so appraised. It sometimes happens that the garnishers has removed the goods before appraisement; in which case the officer returns the fact to the court, and a jury is empanelled to enquire and assess the value of the goods removed; and thereupon judgment and execution follow for the sum so assessed. But before execution can in any case issue against the garnishers, the plaintiff is required to enter into a recognizance with two sureties, obliging himself to return the money or goods taken under the attachment, if the defendant appears in court within a year and a day, and dispossesses or avows the debt, or shows that it did not arise within the court.

The above is the course of proceeding in the case of a judgment by default. Instead of following this course, however, the garnishers, who is commonly the banker, factor, or agent of the defendant, usually appears and pleads. As the court, when a defendant can give security to the court from himself to the defendant, or that he possesses any goods or money of his; he may also show that he has a lien upon the defendant's goods in his own right. The question thus raised between the plaintiff and garnishers is then tried by a jury, and judgment is given upon their verdict, with or without appraisement, according to the nature of the property attached. It should be remarked that, according to the custom, the garnishers can remove his goods anywhere, even under the attachment; if the garnishers refuses to deliver them, the only remedy of the plaintiff is to arrest him.

A difference of opinion prevails amongst mercantile men with respect to the utility of this proceeding. On the one side it is said to be useful in insuring the security of creditors, to be readily able to apply the property of an absent debtor, wherever it may be found, to the payment of his creditor; and, this is contended, is particularly advantageous in cases where the garnishers would be satisfied with the payment of a debt which may have been made during their abode in England, and then remove themselves to foreign parts, beyond the reach of personal process: on the other hand, it is supposed to enourage commercial operations, in consequence of the enormities committed, and the numerous instances of exorbitant rates of interest being imposed upon the creditor, to attract property to the amount of £5,000, or any larger sum, which cannot be applied in discharge of any commercial engagements which the debtor may have formed, until the attachment be disposed of. The apprehension of this process is alleged to deter foreign merchants from concluding cargoes to London. It does not, however, appear to be likely that the existence of this custom should, under ordinary circumstances, have the effect of deterring the fair mercantile man from sending his goods to London; though it may well happen that a trader, who has contracted debts in London which he does not intend to pay, or who suspects that claims will be set up which he does not wish to afford the claimants any facilities to which they are entitled, may be a port where, by means of this process, any of his creditors there, real or pretended, might instantly seize it. Nor can much practical inconvenience arise from the power of a garnisher propery to a small debt; for the garnishers, who is in the same interest as the plaintiff, may be aggrieved in some shape or other, may at any time dissolve the attachment, by appearing for the latter, and putting in bail to the action; or, if satisfied with the truth of the debt upon which the attachment was obtained and continued, may close the garnishers's demand, and take credit for the amount in his account with the defendant: for a payment under an attachment would be perfectly an answer to any demand against the garnishers by the defendant. The alleged objections do not, therefore, appear to be so formidable as has been represented; but the advantage of a speedy and safe mode of recovering debts is obvious.

There are, however, many imperfections in this form of proceeding. In the first place, the court has no control over either side; and therefore where a small debt is contested, if the plaintiff suceeds against the garnishers, his costs may very possibly exceed the sum he can recover; and if the garnishers succeeds in showing himself not to be liable to the attachment, he may be left in the lurch without the possibility of reimbursement. Secondly, the efficiency of the custom is much impeded by the limited extent of its local jurisdiction. Thus, goods in a warehouse on the river Thames, lying in a lighter on the river Thames within a yard of the warehouse where they are exempt. So also, if a merchant keep his cash with a banker in the city, it is liable to the process; but if his banker dwell a few yards beyond the limits of the city, no attachment can be made of his balance unless the plaintiff should prepare himself with process, and be fortunate enough to serve it upon one of the partners when accidentally within the jurisdiction; in which case, as he is supposed to carry with him his books and liabilities of the house to which he belongs, the balance of any customer of the firm might be attached. But the most serious objection to the proceeding, as universally practised in London at the present day, arises from the palpable opportunity which it affords the fraudulently attached person or garnisher to attach the plaintiff and the garnisher, to the injury of the defendant. By the letter of the custom, as above stated, the defendant must be sought in the first instance by the officer of the court; and if not found in the city, and if he does not answer within seven days, or if openly called upon by the society, the doubt may arise against his goods. Still no step can be taken towards appropriating them until the defendant has been solemnly called at four several courts; and then, and not till then, the garnishers may be summoned. In ancient times, therefore, when the custom was strictly adhered to, every possible precaution was taken to give notice to the defendant of the intended proceeding against his property; and unless he was actually absent from the country (in which case he need not, or on his return to the city, of course his goods are secured to him by the society; for the custom itself would be contrary, not only to the common law, but to the first principles of justice, if it sanctioned a proceeding against a man or his property without notice. But this principle is at the present day entirely disregarded, or is considered a matter of form; and the garnisher may proceed against no property whatever to the defendant against a fraudulent collusion between the garnishers and the plaintiff. It is quite within the range of possibility that a solvent defendant may reside next door to the garnishers with whom his goods are deposited; that the garnishers and plaintiff may agree to an attachment for a real or fictitious debt; that execution may issue; and even that the year and a day may expire, and consequently the property may be absolutely lost to the defendant before he has an opportunity of taking any exception. This objection, however, applies not to the custom itself, which is in this respect just and reasonable, but to the abuse and corruption of it in modern practice.

ATTACHMENT (Process.) An attachment is a kind of criminal process which may be resorted to by any person authorized to issue summarily upon a mere suggestion, or upon the personal knowledge of the judges, without indictment or information. This process is properly granted in cases of contempt, which is considered a matter of common law, according to their discretion. Thus if a contempt be done in the presence of the court by a breach of the peace, an open defiance of its authority, or an interruption of its proceedings, the offender may at once be brought before the court, and committed to the house of correction, or to such other place as the court shall order. No other extent at the discretion of the presiding judges. On the other hand, if it be suggested by a third person upon oath that one not present in court has committed an action which amounts to a contempt, the court will make a rule
upon the offender to show cause why an attachment should not issue against him; or in flagrant and urgent cases, where an immediate remedy is necessary, will grant an attachment on the first complaint without any previous rule to show cause. In modern practices attachments are chiefly employed for the protection of vendors, and it is the primary duty of the administration of justice by judges of inferior jurisdiction, for corruption or injustice by officers and ministers of the courts in refusing to execute lawful process, for doing it oppressively, corruptly, or extortiously, or for making false or unlawful applications in these respects, which giving discred it the administration of justice, are for that reason construed to be contempt of the courts, and punishable as such by attachment. Upon such principles, attorneys, we may suppose the cases to be different from those of the former times, when witnesses, who refused to be heard, may be punished by this summary mode of proceeding for any dishonest practice, and in particular for unjust or fraudulent conduct towards their clients. It is said by Mr. Sergeant Hawkins, that barristers, 'though not officers of any court, yet insomuch as they have a special privilege to practise the law, and their misbehaviour tends to bring a disgrace upon the law itself, are punishable by attachment for any foul practice, as other ministers of justice are.' (Hawkins's Pleas of the Crown, Bk. 2, c. 39, s. 60.)

Juries also may be liable to attachment for constructive containments in their ministerial capacity: for instance, for making default when lawfully summoned; for refusing to be sworn or to give any verdict; or for receiving a bribe or influence in the return of the cause. (Hawkins's Pleas of the Crown, Bk. 2, c. 39, s. 60.) In early periods of the history of our law, juries were sometimes attached for acts done in their deliberative or judicial capacity, as for rendering verdicts against evidence or the direction of the court in matters of law. That giving a verdict contrary to the opinion of the court was not so unreasonable as it may at first appear to those acquainted only with the province of juries at the present day. In ancient times the jury were to all intents and purposes witnesses who were sworn to speak the truth (verba ducta dicere); and if they gave a false verdict upon facts, they committed a similar kind of contempt to that of witnesses committing manifest perjury at the present day. Mr. Sergeant Hawkins gives it as the inclination of his opinion that a jury would be still liable to an attachment for giving a verdict willfully against the direction of the court in point of law. The absence of an instance, however, in modern times of such a proceeding, would afford a strong argument against its legality. Besides the contempts committed by juries and persons as above noticed, there are instances which it would be endless to enumerate, in which all persons may become liable to attachment for offences of this description. Thus willful perjury in the presence of the court, refusal of oaths or oaths of perjury, judge, or judge-counterfeiting, refusal to pay money or perform acts according to the direction of an order entered into by rule of court, non-payment of costs taxed by the officer of the court in which a proceeding is pending, are all instances of such contempts, as witness and other persons who commit them to the summary process of attachment.

Attachment of Privileges was a process by which attorneys or other officers, entitled to privilege in the courts to which they belong, might, before the Uniformity of Process Act, enforce the appearance of another person in their respective courts to answer to an action. ATTACK, in military language, the effort made by armed men to despossess an enemy of any favourite positions.

ATTAINER, from the Latin word attinxit, 'attain,' 'stained,' is a consequence which the law of England has attached to the passing of sentence of death upon a criminal. Attainer does not follow upon the conviction of a capital offence: because, after conviction, the judgement of the court, or the sentence, is one which cannot be arrested, and the conviction itself cancelled, or the criminal may obtain a pardon: in either of which cases no attainer ensues. But as soon as sentence of death is passed upon a criminal who has been convicted of a capital offence, the person becomes in contemplation of law attainted, stained, or blackened in reputation. He cannot sue or be a witness in a court of justice; he loses all power of inheriting the lands and goods of any of his ancestors, or of any of the duties, or enjoying any of the privileges, of a freeman.

The person of a man attainted is, however, not absolutely at the disposal of the crown. It is so for the ends of public justice, but for no other purpose. Usual execution, his creditors have an interest in his person for securing their debts; and he himself, as long as he lives, is under the protection of the law. (See Macaulay's case, vol. xviii. of Howell's State Trials, p. 862.) For the same reasons, such a sentence disqualifies the attainer as it exists by the ordinary laws of the realm; and, secondly, gives some account of those extraordinary enactments of the legislature, commonly known by the name of Bills of Attainder.

1. The principal consequences of attainer, according to the ordinary course of law, are forfeiture of the real and personal estates, and what is technically called corruption of the blood of the offender. The forfeiture of the personal estates is an ever-present calamity, from which the offender only recovers to the goods and chattels of which he was actually possessed at that time. Real estate is not forfeited until attainer; but then the forfeiture (except in the case of attainer upon outlawry) has relation to the time when the offence was committed, so as to avoid all intermediate sales and incumbrances. (Co. Litt. 390 b.)

The extent and nature of the forfeiture of real estate upon attainer differ in the case of high treason, and in cases of murder or other felony. Attainer for high treason is followed by an immediate and absolute forfeiture to the crown of all freehold estates, whether of inheritance or otherwise, of which the person attainted was seized at the time of the treason committed. This consequence of attainer for high treason is derived from the statutes of the Anglo-French jurisprudence. (Com. vol. ii. p. 251; iv. p. 304.) Copyholds are like manner forfeited to the lord of the manor of which they are held, upon the attainer of the tenant for its default.

By stat. 5 & Edw. VII., cap. 11, the dower of the widow of a person attainted for high treason is also forfeited. But it is to be remembered that there is no forfeiture unless an actual attainer takes place; and therefore if a traitor dies by his own hand before judgment, his lands are not forfeited, unless a special act of parliament is passed for the purpose. It is said, however (Reports, iv. 579), that if the chief justice of England in person, upon the view of the body of one killed in open rebellion, records the facts and returns them into the court of King's Bench, both the lands and the goods of the rebel shall be forfeited.

This absolute and entire forfeiture of the estates of persons convicted of high treason was often productive of extreme hardships and injustice. Many of those who were no parties to their crimes, participated in their punishment. In certain modern treasons, therefore, relating to the coin, created by statute, it is expressly provided, that no person be punished save that to the person, or the life of the offender, and that they shall not deprive his widow of her dower. (Stat. 3 Eliz. c. 11; 16 Eliz. c. 1; 5 Will. III. c. 26; 15 & 16 Geo. II. c. 28.)

In cases of attainer for murder or other felony, the forfeiture of the blood is to the crown a punishment for a longer term than a year and a day, with an unlimited power of committing waste upon the lands during that period. This is called in our old law-books 'The King's year and a day's waste.' After the expiration of this term, the lands would naturally descend to the heir of the person attainted, if the feudal law of seisin for corruption of blood did not intervene, and vest them in the lord of whom they are held. In order to understand the doctrine of seisin for corruption of blood, we must remember, that in our modern law of real property is chiefly derived, all lands were, or were supposed to be, held by gift from a superior lord, subject to certain services and conditions upon which any grantee in fee simply possessed the lands, and the life of the grantee is seised, i.e. fell back to the original giver. Now, by the attainer of a tenant in fee-simple for felony, the compact between him and his lord was totally dissolved; his blood was suspected to be corrupted, and he was disabled not only from inheriting the lands himself, but passing them down to his descendants. Even though he had no lands in possession at the time of the attainer, and acquired none afterwards upon which the law of forfeiture could operate, his title to the lands would be destroyed, and the title pass to the justiciary of the descendants. For even as to the seisin of his blood, which completely stopped up the course of descent, it was impossible to derive a title to any lands, either from
him directly, or from a remote ancestor through him. The inevitable consequence was an attack on any one who was in the house of the king as a feudal superior, for he was generally the sole party interested in the estates of the deceased person. On this ground the law took the form of a provision to confound forfeitures into one, unless we illustrate the difference between them by some familiar instance of their respective operations according to the law as it formerly stood. Thus (to take the instance of a case held by his late grandfather, Commonmolton's case, p. 231), if a father were seized in seisin, and his son committed treason and were attainted, upon the death of the father the lands seized to the lord, because the son by the corruption of his blood was incapable of being heir, though the mother might be so, though he might have been in feoff or fee demesne, for the king, for the son never had any interest in the lands to forfeit.

The practical injustice and hardship caused by the doctrine of the corruption of blood in punishing the offences of the guilty by a heavy punishment upon the innocent, have frequently attracted the attention of the legislature; though, until lately, little has been done towards permanently remedying the evil. Thus it has been usual, where a new felony has been created, Act of Parliament, to make an express provision that it should not extend to corruption of blood. By the stat. 7 Anne, cap. 31 (the operation of which was deferred by 17 Geo. II. cap. 39), it was enacted that after the death of the Pretender and his sons, no attaint for treason committed under the Pretender should attach to any person other than the offender. But both these statutes being repealed by 39 Geo. III. cap. 93, the ancient law of forfeiture for treason was restored. By the stat. 3 Geo. III. cap. 145, corruption of blood was taken away for the future in cases of treason, petit treason (i.e. where a wife had murdered her husband, a servant his master, or an ecclesiastic his superior), and other murders. Finally, the worst consequence of the doctrine of corruption of blood, the imposition of a new treason traversed through attainted persons, was removed by the late statute of the 3 & 4 Will. IV. cap. 106, sec. 16, which enacted, that no attaint for the future should prevent descent (which, by the first section of the act, means, title to inherit by coming to title from being traced through the body of an attainted person, unless the lands seceded before the 1st of January, 1834).

A dignity descended to the heirs general is forfeited to the crown both for treason and for felony. An entail does not forfeit for treason but for felony. Thus Lawrence, Earl Ferrers, whose seignory was limited to the heirs male of the body of his ancestor, being attainted for murder in the reign of George II., was succeeded by Washington, next brother. (Cruise, Real Property, lib. iv. sec. 64, 72, 73.)

The corruption of blood produced by an attainted cannot be effectually removed except by authority of parliament. The king, says Blackstone (vol. ii. p. 254), may excise the most inestimable estate at his pleasure, may execute, in fact, a new forfeiture, in which the interest of the crown is alone concerned; but he cannot wipe away the corruption of blood; for therein a third person hath an interest, the lord, who claims by seisin. But it appears from the same author (vol. iv. p. 492), that the law is so far effectually after an attainted, that it imparts new inheritable blood to the person attainted, so that his children born after the person may inherit from him.

The mistake of an attainted by the common law, as above described, there have been frequent instances in the history of England, of attainers, by express legislative enactment, called bills of attainder. This has happened, either from the extraordinary nature of the crime, or from confounding the case of illegitimacy of the child of the convict with the impossibility of the child's being attainted. It has been thought necessary to have recourse to the supreme power of the legislature, for the purpose of punishing particular offences. These enactments, either in the shape of bills of attainder or bills of pains and penalties, have been very frequent. In the time of the late war, it has been thought of great importance to have recourse to the supreme power of the legislature, for the purpose of suspending the ordinary law. There were some instances of them under the Plantagenets, as the bills of attainer against Roger Mortimer, and Edmund earl of Arundel, in the reign of Edward III. Both of these, however, were reversed in the same reign. It was not till the reign of Henry VIII., which was fertile in new crimes and extraordinary punishments, that the use of the power was carried to an extreme, and led to supersede trials according to the ordinary process of law. Scarcely a year passed without persons of the highest rank and most distinguished character being brought to the bar of justice by bills of attainder. Such, for instance, were the celebrated earl of Surrey, Cromwell earl of Essex, who was said to have been the adviser of those measures, and most of those persons who suffered for denying the king's supremacy. All of these were attainted upon mere hearsay evidence; and the same fate awaited those who ventured without being heard in their defence. In the following reign of Edward VI., the Protector Somerset encouraged a bill of attainder for treason against his brother Lord Seymour of Sudeley, the lord high admiral of England and husband of the queen dowager Catharine Parr, who was hurried through both houses of parliament, without the accused being permitted to say anything in his defence. But, as the nation became better acquainted with the principles of constitutional government, the practice of such bills of attainder became less frequent. Under the Stuarts resource was seldom had to this extraordinary mode of proceeding. It was thought necessary to adopt it in the time of James I., with respect to Catesby, Percy, and several other persons, who had been involved in the Gunpowder Plot, or died before they could be brought to trial, as they, not having been tried, could not have been attainted by the ordinary process of law. A remarkable instance of the.practice of bills of attainder occurred after the restoration of Charles II., and all the records of the proceedings cancelled by act of parliament. The duke of Monmouth also, on his appearing openly in arms against the government, in 1685, was attainted by statute. A remarkable instance of a proceeding by bill of attainder occurred in the case of Sir John Fenwick, who, in the year 1696, was attainted for a conspiracy to assassinate William III. There is no question that Sir John Fenwick might have been tried by the ordinary process of law. The excuse urged for resorting to a bill of attainder, that there was no moral defect of Fenwick's guilt; but that as two witnesses were required by the stat. 7 Will. III. cap. 3, in order to convict him; and as one of them had been tampered with, and removed out of the kingdom, a legal proof of an overt act of treason became impossible. The effect of this bill of attainder was therefore to suspend the statute of 7 Will. III. cap. 3, before it had been two years in operation, in order to destroy an individual. This is a remarkable example of an extraordinary legislative act, without a strong opposition, and has been frequently repeated in subsequent times. Bishop Burnet, one of its most strenuous supporters, allowed that 'the extreme way of proceeding was to be put in practice but seldom, and upon great occasions.' (Howe's State Trials, vol. xii.)

The legislature, acting in conformity with this sentiment, have seldom, since the accession of the House of Hanover, had recourse either to Bills of Attainder, or Bills of Pains and Penalties. Penalties by the instance of a crime occurred during the Irish Rebellion, in 1798, in the case of Lord Edward Fitzgerald, who was being arrested on a charge of high treason, and dying in prison, before he could be brought to trial, of the wounds which he had received in the course of his arrest. Lord Edward was an attaché of the Irish Parliament. But when the violence of party spirit had subsided, the old principle of the constitution, that every man shall be considered innocent of a crime until his guilt has been legally proved, prevailed, and it was given as a sufficient reason to apprehend that a practice so obviously unjust, and so dangerous to the fundamental principles of good government, will be adopted in future.

ATTAIN (attainct), an old word, which formerly lay to import whether a jury had, or had not, given a false verdict. It at first lay only on the trial of writs of assize, and is said to have been introduced by Henry II. At the instance of Chief
Justice Glanville, as a check on the vast power then vested in the recognition of assizes of finding a verdict according to their own personal knowledge, without an examination or views. It was afterwards extended by Edward I. to all pleas of land or freehold, and by statutes in the reigns of Edward I. and Edward III. to all pleas whatsoever, whether real or personal, except writs of right, where the issue was joined on the mere right. The jury on the attainder were twenty-four in number, and must be possessed of freehold of the annual value of 20l., if the matter in dispute was of 40s. value in personas, or of 40s. a year value in lands. At common law, if the grand jury found that the verdict was false, the judgment against the jury finding was one of extreme severity; namely, to lose their liberum legem, and be infamous, to forfeit their goods and profits of their lands, to be imprisoned, and their wives and children to be thrown out of doors; their houses to be razed, their trees extirpated, and their meadows ploughed, and the plaintiff to be restored to all he had lost by reason of the unjust verdict. But a much more moderate judgment was afterwards introduced by 11 Henry VII. c. 24, made perpetual by 13 Eliz. c. 28.

This clumsy expedient for controlling the extensive power of a jury was found to consist of terrors which could only with great difficulty, and in rare cases, be carried into operation. The jury could only be attainted either for finding a verdict contrary to the evidence, or for finding one on evidence not sustaining the issue. But it was almost impossible to attain them on the former ground, since they were at liberty to take their own personal knowledge for evidence; as to the last, the judge had some control over the giving them directions as to the precise point to the issue to which the evidence was to be applied, and if they found a verdict contrary to the express direction of the judge, they ran great risk of an attainder. So inconvenient and ineffectual, however, was the proceeding, that it gave place in the time of Elizabeth and James I., to the now existing practice of setting aside verdicts on motion and granting new trials; and very few instances of an attainder appear in the books later than the sixteenth century. By the Geo. IV. c. 50 (consolidating the laws relating to injuries), the proceeding was totally abolished; but it is provided, by sec. 61, that no person guilty of embezzlement (corruptly influencing a juror by promises or money) may be proceeded against, and punished as before. [See Embezzlement.]

**Attalea**. A genus of palms, found chiefly in the tropical parts of America, where it occupies the richest soil and the hottest forests, rarely ascending the sides of mountains, or spreading from the woods into the open country. It extends from Yucatan in Mexico, to the southern part of the Cape of Good Hope. It belongs to the same division of the natural order as the coco-nut, from which, as well as all its immediate allies, except Arenga (which see), it is distinguished by not containing three cells and three seeds. It is described by the great Linnaeus as a family consisting of lofty or middle-sized, or even occasionally stemless species, with a thickish trunk, the wood of which is soft and of a reddish-brown colour; it is irregularly marked externally with scars, and is terminated by large pinnate leaves, the stalks of which are broad, and the segments smooth, rather thick, plaited, and notlooking. The bunches of fruit are simply branched, but are often of a vast size, and hang down from the bosoms of the leaves, covered with brownish nuts, the seeds of which are edible. Several species are known, of which the two remarkable are the following.

**Attalea funifera**, called by the natives macaba, is found in the native forests of the maritime provinces of Brazil, where it is one of the most valuable trees, which the bountiful hand of nature has conferred on man. The best copaeeia, in America, for naval purposes, is manufactured from the fibres of the leaf stalks and other parts; such ropes are of great strength, and are extremely durable in salt water; many other cables are employed in a great part of the Brazilian navy. This species does not grow more than twenty to thirty feet high; its nuts, which are about as large as an ostrich's egg, have a hard shell like that of the coco-nut.

**Attalea cohune**, another species, is equally useful, but for different purposes. This plant, the pandero of the old writers on Brazil, and the *maçã* of the modern Portuguese, forms delightful groves in the interior of the country, growing from twenty to fifty feet clear of its branch-like leaves. The latter are from fifteen to twenty feet long, and about three feet wide. The fruit is the size of a goose's egg, and contains an edible kernel, of which the negroes are fond. Its leaves form an excellent thatch, and are woven into hats, mats, and baskets.
tax on all vessels entering the Euxine (about 291 B.C.), Attalus readily espoused the cause of the Byzantines, though he could be of no essential service, as he had been defeated a little before by Achaeus, and confined within the limits of Pergamus. He still, however, continued the war with Achaeus; and hisrag in which the body of the Gaul was discovered, he recovered many of the cities of Eolia, which had submitted to Achaeus. In the midst of his victorious career, an eclipse of the moon (B.C. 216) happened, which so alarmed the superstitious Gauls that they refused to continue the war, and returned in perfect security. He left Spain and returned with his army to Pergamus. (Polyb. v. 77, 78.)

We find him in alliance (B.C. 216) with Antiochus the Great, king of Byzas, who was equally anxious with himself to get rid of Achaeus (v. 107). Several years afterwards, when the Rhodians came to terms with Antiochus and the Macedonians, he joined with the Aetolians, the weaker party, against Philip, king of Macedonia. The king of Pergamus was invited to join the alliance (B.C. 211); but we do not find that he took any active part till some time afterwards (B.C. 208), when he was appointed joint protector of the Aetolians with their general Pyrrhus. He sent some auxiliaries, and towards the end of autumn made his appearance at Sikinus with his fleet. Here he passed the winter; but as soon as the season allowed, he embarked on the sea. He then took the city Opsa, the capital of the Locris Opuntii, with the consent of the Romans, allowed it to be sacked by his soldiers. While he was employed here in collecting tribute from the surrounding chiefs, he narrowly escaped being taken prisoner by a party who suspected him of his own accord, and cut off a considerable number of his men. At Atrax, king of Bythynia, had passed the frontiers of his kingdom, he left the Rhodians without resources, and was compelled by the Rhodians (Liv. xxvii. 30, 32; xxviii. 7.) Peace was soon afterwards concluded between the Aetolians and Philip, which was also acceded to by Attalus. When the Romans were ordered (B.C. 205), by an oracle from Delphi, to deliver up to the Macedonians the body of Philip, who was consigned to their care by his own consent, it was to the king of Pergamus that an embassy was sent, and through his means the black stone representing the goddess was procured and conveyed to Rome (xxxi. 11, 12). Peace, however, did not continue; for we find the Rhodians engaged with Attalus (B.C. 201), against Philip, in the second battle of Chama. Attalus behaved with great bravery on this occasion; but having pursued a Macedonian vessel too far, he was forced to abandon his ship and escape by land. This gave Philip a pretext to claim the victory, though his loss was a heavy one.

The next year (B.C. 201), having been deposed by Pergamus, Attalus returned to his city, and went up to Athens (B.C. 200), where he received with great honour, and was abundantly supplied with money. He joined the Romans with a considerable body of troops; and the confederates laid siege to Oremus, a strong city of Euboea, which they took after obstinate resistance. While Attalus was thus engaged at a distance from his kingdom, Attalus with the assistance of Philip, engaged in the midst of an elongated barangus, which he was pronouncing with great force, he was seized with apoplexy; and though he lingered long enough to enable him to be conveyed to Pergamus, he died with his works, in the seventy-first year of his age, having reigned forty-four years. (Scip. 5; Liv. xxi. 21.) He left, by his wife Apollonia, four sons, Eumenes, who succeeded him; Attalus, who succeeded his brother Eumenes; Philuterus; and Athenæus.

A few years of his reign were imbittered from his affection to his brother, who was born B.C. 220: he was the second son of Attalus L. and succeeded to the throne of Pergamus on the death of his brother Eumenes (B.C. 159), as the son of that prince, also called Attalus, was of too tender an age to oppose the claims of his uncle, who was already the acknowledged chief of the kingdom of Cappadocia, in which he seems to have been successful. (Polyb. xxxii. 22.) He pursued faithfully the policy of his family, in maintaining an intimate alliance with the Romans; and he was treated by them with that friendship which the Romans had for Attalus, the king of Bythynia, made an attack on the territory of Attalus (B.C. 160), and even laid siege to Pergamus itself; but, frightened by the threats of the Romans, he was compelled to desist, and to indemnify Attalus for the loss he had sustained. This war, however, was carried on for several years; the leading facts may be found in Appian's Mithridat. v. 37; also Polyb. xxxii. 26; Liv. xi. 8, 10, 11. Five years afterwards (B.C. 149) we find Attalus assisting Nicomedes against his father Prasias (Strab. xiii. 634); but though he lived to the advanced age of eighty-two years, we are unable to mention any circumstances connected with him. He lived in perfect peace and quiet until he was so much under the influence of his minister Philopomen, that the Romans used in jest to inquire from those returning from Asia whether Attalus was still the chief favourite of Philopomen. (Plutarch, Mor. p. 792.) He was the father of six sons, of whom the eldest was named after the city of Lydia (Steph. Byz.); and of Attaleias in Pamphylia (Strab. xiv. 667); and it was probably this king who was so fond of collecting works of art, that he gave one hundred Attic talents for a painting of a sick man by Apelles, to mean the contemporary and rival of Apelles. (Plin. viii. 36, xxxv. 9.) He was also the inventor of a kind of embroidered hanging or tapestry (viii. 46.).

ATTALUS III., named Philomelos, from his affection towards his mother on the death of his uncle, Attalus II.; but he is little known to us, except for the madness and extravagance of his conduct. He reigned was chiefly memorable for the murder of his friends and companions with whom he was always infatuated; and for himself every sort of negligence which the most graceful superstition could invent. He finally gave up all care of public business, and devoted his time to gardening, which he carried on with great expense and industry, and to a work on the subject, which is recommended by Pliny (xxvii. 4.), Varro (R. R. lib. i. 1), and Columella (R. R. lib. i. 1.) Having engaged with great eagerness in the erection of a sepulchral monument to his mother Stratonice, daughter of Seleucus, king of Syria, he was induced by a Greek bishop to refrain from the violation of the sun's rays; and having been seized by a fever, he died, after a reign of five years, B.C. 133, leaving in his will the expression "honorum meorum Populos Romanos harena esto," thereby making the Romans the heir of his movable property; but which they carefully preserved, and called the kingdom of Pergamus. (Justin. xxxvi. 4.; Diodor. Sic. xxxiv., vol. x. p. 128, ed. Bib.; Plin. xxxii. 11.) The kingdom was claimed by Aristonicus, an illegitimate son of Eumenes II., and he bravely maintained the contest for a long time; but at last, when he was conquered by Attalus, he was carried to Rome, and strangled in prison, B.C. 129. The kingdom of Pergamus was from this time the Roman province of Asia. (See Clinton's Rusti Heleniæ, vol. i.)

The kingdom of Pergamus was held by the descendants of Honorius, was sent by the Romans to that emperor at Ravenna, to represent to him the difficult situation of the capital, threatened at that time by Alaric, and to advise him to fulfil the conditions of a treaty which had been concluded with Gothar chief; but the weak and false Honorius refused to listen to the proposals, thinking himself possessed already of the real power, and in no need of Honorius's consent. Attalus, however, having opposed Alaric, was proclaimed by the king of the Suebi chief as a presumptuous, incapable person. After this, Alaric again besieged Rome, took it, and gave it up to pillage in August, 410. Upon Alaric's death, Attalus followed the fortunes of his successor, Ataulphus, whom he accompanied in his expeditions to Sicily. In the year 418, Ataulphus and his brother Placidia, the sister of Honorius, in the town of Narbo, Ataulphus sang an epithalamium which he had composed for the occasion. Ataulphus seeing Honorius persisting in his hostility to him, was proclaimed by his soldiers emperor once more, and restored his restored dignity was merely that of a vassal; Ataulphus's death, his successor, Vallia, having concluded peace
with Honorious, Attalus endeavored to escape the emperor's vengeance, but was taken at sea, and, by Honorious's order, confi ned in the island of Lipari, after having had the fingers of his right hand cut off, in order to prevent him from being able to write. Attalus was afterwards recalled to Rome, where he died in obscurity. (Zosimus, Orosius, and Gibbon.)

ATTAR, or OTTO OF ROSES, an essential oil obtained in India from the petals of the rose centifolia and sesquipedialis; for this purpose a cake or gelatinous substance is filled with the rose leaves carefully separated from the calyxes, and spring water poured in just sufficient to cover them; the vessel with its contents is then set in the sun for two or three days, and taken under cover during the night. At the end of the third or fourth day, yellow articles of rose oil are seen floating on the surface of the water, which in the course of a week will have increased to a thin scum; this is taken up by a little cotton tied to the end of a stick, and squeezed into a small vial. (Aikin's Dictionary.)

This oil is a well-known perfume; but the odor is agreeable only when diffused, being too powerful when it is concentrated. According to Saussure, the attar is a mixture of two oils, one of which is solid, and the other fluid, at the usual temperature of the air, the latter being separated by washing with alcohol, which does not dissolve the concrete oil at a low temperature; or by pressure between folds of paper, which absorbs the fluid oil. By the latter process, three parts of the common yield one part of the concrete oil.

Attar of roses liquefies at about 85° of Fahrenheit, and the solid oil at about 91°; the latter crystallizes by cold into brilliant white transparent laminae of the consistence of bees' wax. The density of attar of roses rendered fluid at about 14° is 0.866, and the solid oil at about 14°, 0.932, which, according to M. Saussure, is less than that of any other essential oil that he examined; the concrete oil, when fused, is even lighter than this.

The concrete oil is very slightly soluble in alcohol, 1000 parts of the density of 0.806, taking up only two parts of it at 37° Fahrenheit, while the same quantity of alcohol dissolves seven parts of the attar, and the fluid portion is still more soluble.

Saussure observes that the most remarkable circumstance attendant upon this analysis, is its close resemblance to that observed in <carbon tetrachloride>, which is, carbon tetrachloride (86.763), hydrogen chloride 14.29. Indeed these bodies may be considered as what are now termed isomeric compounds.

ATTUR, FRANCIS, bishop of Rochester in the reigns of Queen Anne and George I., was born on the 5th of March, 1662, at Milton, near Newport Pagnell, in Buckinghamshire, of which parish his father was rector. He was educated at Westminster, and elected student of Christ Church, Oxford, in 1680. According to Wood, he took the degree of bachelor of arts in 1684, and that of master in 1687. In 1696, he was the first writer in an answer to Considerations on the Spirit of Martin Luther, and the Original of the Reformation; a tract published under the name of Abraham Woodhead, an error which was corrected in the second edition, by Francis Walker, master of University College. Bishop Burnet, in his History of his Own Times, ranks this vindication amongst the most able defences of the Protestant religion. Atturley himself, on his trial, appeared to this book to exculpate himself from the censure of a secret libel on a doctor of divinity, and on this disapprobation he sought for popularity and promotion in the more striking theatre of the metropolis. Here his talents for the pulpit soon became conspicuous: he was speedily appointed one of the royal chaplains in ordinary, and was elected preacher of Bridewell, and lecturer of St. Bride's. To his sermon on the Power of Charity to cover Sin, Handly published Exceptions, which Atturley did not, and perhaps could not, answer. Another sermon, entitled The Scourer of Wit, or the Blind Prophet, published by John Gravelock, in account of a supposed inscription against Archbishop Tillotson's orthodoxy. In the year 1708 appeared Mr. Boyle's Exposition of Dr. Bentley's Dissertations on the Epistles of Philemon and Phidias of Asop. Though this work was published under Boyle's name, it was shewn by Bishop Monk (Life of Bentley) that Atturley had the chief share in the undertaking, and in fact wrote more than half the book. Whatever credit we may give Atturley for ingenuity and humour, this work proves that he had not much learning.

In the year 1715, Atturley appears to have entered into controversy with Dr. Wake, afterwards archbishop of Canterbury, and others, concerning the rights, powers, and privileges of convocation. Dr. Wake alleged the authority of Christian princes over their ecclesiastical synods, with which Atturley defended his position in a long and learned essay. Atturley took the opposite side of the question, in a rough and acrimonious spirit, but with much ingenuity. Stockhouse, in his Memoirs, says, that Dr. Atturley, in his controversial writings, dealt out his wit and satire at such a rate as could not be served by any one else. However that may be, his zeal for the interests of his order procured him the thanks of the Lower House of Convocation, and the degree of Doctor in Divinity, without exercise or fees, from the University of Oxford, for the defence of Queen Anne. In 1702, Atturley was appointed one of her chaplains in ordinary, and in 1704 advanced to the deanship of Carlisle. His characteristic impatience broke out remarkably on this occasion. He took out his instruments before his predecessor had resigned. Dr. Nicholl, in a letter of the Historical Library, to bishop of Carlisle, and owing to a previous misunderstanding, fully detailed by Stockhouse, was not kindly disposed towards the new dean, and required the preceding dean's resignation to be produced. When the gray hair of Atturley's predecessor was to be dated a month subsequent to Atturley's collation, which was therefore void. Atturley attempted, but without success, to procure from his predecessor, and afterwards from an officer in Chancery, a clandestine alteration of dates. As the prebend was only ten years in the deanery, the motive (beyond a desire to save trouble or expense) can be assigned for this extraordinary proceeding; but it indicated a lax adherence to veracity, and was a scandalous contempt of public decency. He was at length admitted to his deanship without this matter of date being passed over.

In 1706 Atturley was engaged in a dispute with Hoadly concerning the advantages of virtue with regard to the present life. In a funeral sermon he had asserted, that if the benefits resulting from Christianity were confined to the present life alone, it was a miserable race, the most miserable. Hoadly, on the contrary, maintained, in a printed letter to Atturley, that it was a point of the utmost importance to the Gospel itself, to vindicate the tendency of virtue to the temporal happiness of man. Atturley defended his position in a long and learned essay in the second edition of his sermon; to which Hoadly published a rejoinder. In 1707 Atturley was made canon in the cathedral of Exeter; and in 1709 his eloquence raised him to the prebendarry of the Rolls Chapel. In the same year he was the first member of any college in the metropolis to be made dean, and Hoadly, concerning pious obedience. In 1710 Dr. Sarceverell's trial took place; and it is stated in Boyer's History of the Life and Reign of Queen Anne, that the defence was generally thought to have been much the best; but Dr. Atturley, in conjunction with Dr. Smaltridge and Dr. Furness. In the same year Dr. Atturley was chosen proctor to the lower house of convocation. In 1711 he was chiefly concerned in drawing up a representation of the present state of religion, with Bishop Burnet, and other divines, for the purpose of convicting the administration of the Revolution. His draught was agreed to by the lower house; but the bishops ordered another to be drawn in more moderate terms. The more violent representation was not presented to the queen; but was put in his pocket. In 1712 Atturley was made dean of Christ Church, Oxford. Owing to his imperious temper, the flames of discord were blown out in the College, and his removal was thought necessary for the restoration of peace.
compelled to carry water after him, to extinguish the flames of his litigiousness. In 1713, on Lord Oxford’s recommend-
ation, he was promoted to the bishopric of Rochester, and the deanery of St. Paul’s also became vacant. In the same year, Stackhouse quizzically observes, that the eyes of his understanding were blinded, by Lambeth being opposite to Westminster. It has been generally thought that he aspired to the primacy, and that he probably would have been elevated to the see of Canterbury during the reign of William and Mary, had he not been removed in 1725 to a bishopric in Scotland. He died in Edinburgh, in 1731, at the age of sixty-four. His death was mourned by a large concourse of people, and the cause of religion suffered by his absence from the see.
but once the chief town of the district, was formerly a favourite resort of its then owners, the prince-bishops of Bamberg. The lake is about 12 miles in length from north to south; its surface contains 8121 Vienna yachts, or 11,547 English acres; and its south-western extremity is about 21 miles distant from Salzburg. S. Hall places it in 47° 55' N. lat., and 13° 35' E. long. The Ager flows northwards out of it into the Traun.

ATTIC: a term in architecture, comprehending the whole of a plain or decorated parapet wall, terminating the upper part of the façade of an edifice. The derivation of the word is uncertain. It appears to have been a generally received opinion that the word was derived from the circumstance of edifices in Attica being built after this manner. There is at Athens a monument, that of Thrasyllus, with an attic over the order of pilasters which form the basement. In the centre there was a colossal statue. [See Athens, p. 10.]

In a note to the second edition of Stuart’s Athens, published in 1825, the editor is of opinion that this attic was not contemplated in the original design, but added at the date of the two upper inscriptions when Thrasyllus was Agonothetes. (See note, p. 92, vol. ii., second edition of Stuart, 1825.) This example, however, may be taken as the best type of a Greek attic which is at present known. In the Archologia Londinensis there is an ingenious, although, as we think, a wrong derivation of the word attic, unless we suppose the word compounded of a privative, and τάξις a wall, thus signifying ‘without a wall, or without being in connexion with a wall’.

The example of such an attic, it is said, is found in all Hypothalae temples, for as the naos, nave or space between the inner ranges of the columns, must not be covered, upper ranges of columns, with a wall above them, must be placed over the lower order of columns to catch the end of the rafters at its highest elevation: an example of this kind of attic may be found at Paeumia, in Italy.

Another example, which bears a closer resemblance to the Roman attic, exists in the upper wall of the nave of the Temple of Jupiter Olympius at Agrigentum (see Atlantis), where there is an entire wall with short pilasters at intervals, in the front of which are figures placed above the pilasters of the nave. Vitruvius and Pliny do not make any mention of, or allusion to, the attic of a building as we understand it at the present day. In the annexed cut we have given a representation of a Roman attic, the only remaining part of a superbly decorated wall enclosing the Forum of Nerva at Rome. This wall was of considerable extent, and was divided at intervals by columns projecting from the wall, over which, as may be seen in the drawing, the attic wall is continued at right angles to the wall forming the enclosure. The attic, also, is a very conspicuous feature in the triumphal arches at Rome and a necessary one: it was not merely intended as a framework for the inscription, nor as a support for statues, but is essential to the proportions of the whole composition.

In all the best examples, and especially in the remains of antiquity at Rome, the attic is decorated with a moulded base and cornice, often with pilasters and figures, as in the arch of Constantine. At Thessalonica, in the Jews’ quarter, are the remains of a building called the Incantada, drawn and described by Stuart in the 3rd vol. of his Athens. Five Corinthian columns on their pedestals support an entablature; over four of these columns there still exists an attic adorned on each side with figures in alto relievo. The spaces between the figures are open, and there is a cornice over the figures with a base at their feet; the design and execution of this work are attributed to the period of Roman dominion.

Rather than to any other. (Stuart’s Athens, vol. iii.) At Bourdeaux, a somewhat similar building existed in the reign of Louis XIV., which was destroyed by Vauban to erect the fortifications constructed at that time. Perrault, the architect, made a drawing of the ruin previous to its destruction; from which circumstance the design is now preserved, and may be seen in the Antiquités of Stuart’s Athens (1825). The most remarkable difference between this building and the Incantada is, that in the former, the openings in the attic between the figures are arched, while in the latter they are bounded by the straight line of the cornice. The arch in the former is contestably to have been a Roman work; while from the
uncertainty respecting the date and use of the building at Thessalonica, the period of its erection cannot be ascertained.

The Italian architects who had studied the remains of antiquity in Rome, and those who followed in their school, usually employed an attic in their designs, as may be seen by a reference to their works, and more especially to the description given by Vitruvius. (De Architect., v. 5.) The name of Andreau Palladio raccolti ed illustrate, da Ottavio Bertotti Scamozzi, 1776. The attic is in such common use, that there are few public buildings in London without it. Somerset House, in the view towards the street, may be taken out. One takes, as usual, in architecture, the description under the name of Attica.

In Attica, or at the ornamental tops of a house, with or without a parapet-wall in front. It is possible that the parapet-wall which corresponds with the attic-wall in architecture, may have given the name to the rooms or roods in the upper stories or roofs of houses.

Attica (properly Attiké, Attika), one of the political divisions of ancient Greece. The origin of the name is doubtful; some (Strabo, p. 391) have derived it from the word Acte, a term expressive of the form of the coast line. [See Actium.] From Acte the word Actike might be easily derived. But it is perhaps more likely that Attike contains the element Ath or Ath, which we observe in the words Athias and Athenas.

It has the form of a triangle, two sides of which are washed by the sea, and the third is protected by mountains. The mountain-range which descends from northern Greece forms a knot close upon the Corinthian gulf, at the base of the mountain, which forms the isthmus between the N.E. and the Corinth gulf (here called the Alcyonian), and the Saronic gulf; its termination on the shore of the Saronic is marked by the delta of the river Saron, which, after crossing the isthmus, runs northward as far as the ancient Brauron, which is near the eastern coast, and probably on the Erainus. The whole of this barren district was called by the general term of Paralia, or the Sea Coast District. The small extent of level or unirrigated country bounded by Pentelias on the north, Hymettus on the west, the hills of the Paralia on the south, and the sea on the east, was named Mesogia or the Central Plain, a name which is applied to the central plain of Greece, on account of its being the natural road from the Athenian plain into the Mesogia runs in the depression between the two parts of Hymettus; another road from the upper valley of the Cephisus leads into the Mesogia between the heights of Pentelicus and the southern parts of Hymettus. The Mesogia, therefore, supplies the N.E. angle of the province, between the southern extremity of Pentelicus, the range of Paralia, and the sea, was called Diocria, a name which implies a region interspersed with rugged eminences. The only level part of this district is the small plain of Marathon which opens to the sea.

It appears, then, that Attica Proper, with respect to its plains, is distributed into four natural divisions:—1. The Eleusinian or Thessalian Plain; 2. The Athenian Plain; 3. The Mesogia; 4. The Plain of Marathon. The area of Attica may be thus divided:—a. The land within the walls of Athens is about 27 square miles, not including Salamis, which perhaps contains about forty square miles. Though we now know the coast line of Attica with accuracy, we are still without that exact knowledge of the whole, which it is the object of the geographer to avoid considerable error in estimating the surface; but taking it at 700 square miles, it is nearly equal to that of Worcestershire (718 square miles), and only about one-eighth of that of Yorkshire.

The plain of Marathon or Oropia, lying between Parnes, the Asopus, and the sea, contained the town of Oropus; though physically separated from the rest of Attica, and properly considered a part of Boetia, this district generally belonged to the Athenians. To settle all disputes, Philip gave it to the Athenians. (Polyb., 3. 34. 11.)

The sea-coast of Attica begins on the west side with the fine bay of Evia, formed by the receding coast of the main land and the irregularly-shaped island of Salamis, which lies in front of it. Two narrow channels, one on the
The ancient names on the map of Attica are in brackets.

Proceeding along the coast we come to the ports of Athens, already described (see Athens), to the promontory Colusa, on the east side of the Phaleric bay; and to a low marshy shore, or lagoon, occupying a large part of the coast between Colusa and the Cape of Hiera, now Cape Pavlo. Between Hiera and Zoster, which forms the most remarkable projection on this coast, and some small rocky islands (Leuke), which the Persian ships, when flying from the battle of Salamis, at first sight mistook for the enemy's fleet; but Herodotus (vii. 97, 107) says, though he probably might be mistaken, that the height which appeared like ships were on the mainland. The position of Cape Astypalae seems to be indicated by the island of Eleusia (now Lagonissi), which lies in front of it. The extreme point of Athens, Cape Sounium, is now called Colonus, from the fourteen remaining Drew columns of white marble, which adorned the temple of Athens of Sounium, the tutelary goddess of the land. Sunium was made a strong fort (Thucyd. vi. 4), and the walls are still traceable in all their circuit except in some parts, which, owing to the precipitous character of the rock, needed no defence. The circuit of the enclosure is above half a mile; the temple occupied a small part of it close upon the bold promontory, and appears to have had

[The ancient names on the map of Attica are in brackets.]
that there was a road along the coast from Rhannus to Oropus; this road must have passed Paphis, which Col. Leake would place at Calamo. The coast line from Sunium to Calamis is quite smooth or quit straight, which is the same length that we have assigned to the western coast; it happens, also, that the direct distances from Sunium to the Horns and Calamis respectively are very nearly the same.

We shall now make a few remarks on the two great plains of Attica, the western plain of Attica, and the eastern plains of Attica. We have preferred the name of Eleusinian for the western plain of Attica, though the chief part of it is called the Thrian by ancient writers, from the demes of Thria. The range of Ægeaeus formed a natural limit between the Attican plain and that of Thria; and the obscure traces of old traditions, the Eleusinians, in the earliest history of Attica, were a community quite distinct from the Athenians, and sometimes at war with them. The fertile Thrian plain extended between the range of Ægeaeus and Eleusis along the borders of the bay, and to the north of it. The Sacred road from Athens to Eleusis, after crossing Ægeaeus by the narrow pass where the modern convent of Dafni stands, came down on the east coast of the bay of Eleusis, and passed over the marshy sand plains, whose fish formed a part of the revenue of the great temple of Eleusis. [See Eleusis.] This lagoon, or at least one of them, seems marked in the recent survey, as in some measure communicating with the water of the bay. From the northward direction of the road passed over the rocky headland, the acropolis of Athens, and the pass through which the old road ran passed over the rocks above the Rhetia to Eleusis, from which town the road continued, as it now does, below the Horns on the west side of the bay to the town of Megara. When Attica was invaded by the Persians, the fertile plain of Eleusis was the first to suffer from the rampages of the enemy. (Thucyd. i. 19.) We cannot determine in what part of the Eleusinian plain we must look for the Thrian plain; some modern writers have placed it to the west of Eleusis.

Attica is a country which, for the most part, is irrigated, and where the soil is not irrigated, it is generally unproductive. Two small streams water the Eleusinian plain: one, called the Cephissus, descends from the great mountain of Cithaeron, through the narrow plain of Eleutherus, into that of Eleusis; the other small stream, known as the Phrens, has its range of hills somewhat farther to the south of Eleusis, and runs through the Thrian plain towards the Rhetia. The remains of an arched aqueduct intended to supply Eleusis with water are still seen stretching across the plain towards Eleusis from the upper course of this latter stream. The Cephissus, though almost dry in the warm weather, brings down from Cithaeron a prodigious quantity of water in the wet season, and in ancient times mounds were raised to protect Eleusis from those sudden inundations.

The Cephissus depends on the Attican plains, especially on the Cephissus. Its most north-eastern source is at Triennius (Strab. p. 400), between the northern face of Pentelicus and Parnes; another branch rises on the south face of Pentelicus, and flowing westward joins the main stream north of Athens; one other rises on the northmost part of Phyle and runs through the Thrian plain towards the Rhetia. The remains of an arched aqueduct intended to supply Eleusis with water are still seen stretching across the plain towards Eleusis from the upper course of this latter stream. The Cephissus, though almost dry in the warm weather, brings down from Cithaeron a prodigious quantity of water in the wet season, and in ancient times mounds were raised to protect Eleusis from those sudden inundations.

At a time when this interesting province is beginning to be more completely examined, it is necessary to use existing authorities with more caution than if all prospects of future information were shut out. We shall here state briefly a number of facts as they occur, and follow up those events which are best established. The great mass of the mountains of Attica are calcareous, but the stone differs very much in quality and colour. The best specimens of white marble from the quarries of Mendeli (the ancient Pentelicus) are very white, hard, and fine-grained; but owing to numerous little pieces of flint or quartz imbedded in it, this marble is exceedingly difficult to be worked by the sculptor. Between Pentelicus and Parnes, the mass of rocks appears to be mica slate, which is also the character of the Cepris or Tithorea marble, in former times quarried on Hymettus, and, as well as that of Pentelicus, was an article of export: this marble extends to the promontory of Zoster. Near the boundary of Megara in the Horns, there is an immense deposit of conchiforous limestone, which did not escape the notice of Pausanias (i. 44. 1.); also, in the islands off the coast of Attica, Hymettus, and the Saronic Gulf. The silver-mines of Laurium may probably still be worked to advantage with the aid of modern improvements, for we can hardly suppose that the ore is exhausted. Salt was made on the Attic coasts, but this could not be worked by Attics. It cannot produce much grain in proportion to her surface, and with the exception of some of the best lands, the husbandman will cultivate more profitably the olive, fig, and grape: all kinds of leguminous vegetables can be raised, and the banks of the Cephissus, and the eastern plains of Attica.
The tribes (paleai) established by Cleisthenes were Hippothoeotia, Antiochia, Cecropia, Erechtheia, Pandionis, Leontis, Argia, Acastantis, Chneis, Antaius. The ten tribes were subdivided into 174 demi or townships, each demi apparently containing a town or small village. Though the tribes (paleai) were dissimilar, and though neighbouring demi were generally classed under the same tribe, there are numerous examples of contiguous demi assigned to different tribes; just as we sometimes observe parts of England or Ireland completely imbedded in a different county. The most frequent tribe of the Attic demi was Ar革arme. (Thucyd. i. 19.) Under Macedonian influence two tribes were added, Antigonia and Demetrias; but these were afterwards changed to Pose- demus and Attalia. A new tribe was added in honour of Huldrian.

As to the antient population of Attica, it is difficult to come to any satisfactory conclusion. Mr. Clinton considers, that about a c. 317 it may have been 397,660, a large population for such a territory (being above 700 miles square), even if we take into account that it contained a populous city. The numbers, however, with the exception of the Metoci (who are probably exaggerated in Mr. Clinton's calculation), are fairly deduced from the MSS. of Diodorus of Sicily, a countryman of Attica, in the old MSS. of this it is reported in Athenaeus (p. 272). The reader is referred to Mr. Clinton's essay for the various arguments. (Appendix to the first volume of the Pasti Helmei.) With respect to some of Mr. Clinton's subsidiary arguments deduced from the area Astica (which is estimated as 744 square miles, the Salama and the amount of its products, we may observe, first, that the area as determined from all maps hitherto published is necessarily incorrect, the coast line having only been surveyed in 1828 and 1829, and the interior boundary line being still very inadequately laid down; and secondly, that the calculations as to the possible or probable production of grain in Attica are at present exceedingly hazardous, and probably far from the truth.

Attic dialect., a term which is applied to designate one of the varieties of the antient Greek language. The Attic dialect was spoken in the territory of Attica, in the Transactions of the Royal Society of Literature, is a most excellent and accurate work. The reader may also consult Kruse's Hellas, but with caution, and not without the assistance of Leake. See also Thucydides, De Interpreta de la Grecia, Lexicon, 1837; the Unexpanded Antiquities of Attica; and Herrmann's Lehrbuch, &c.

ATTIC DIALECT., a term which is applied to designate one of the varieties of the antient Greek language. The term Attic is applied in particular to the dialect of the Attic earth, is supposed to have been derived from the old inhabitants of Athens and the Ionians; and in conformity with this fact, we find it stated (Strabo, p. 333) that the Ionic form of the Greek language, or the Ionic dialect, is as it is generally called, was the name of the tribe which the ancient Attic earth, so called, was named. But in course of time the language of Attica, which was improved by a great number of writers, gradually acquired a distinct character, and also a decided pre-eminence, owing to the excellent works which were written in it on almost every branch of literature. Most of the great works of antiquity which have been transmitted to us are written in the Attic dialect. Some writers have made, and some three divisions of the Attic dialect, with a few ex-attic writers, but the general division of the Attic dialect into such tribes was sufficiently exact. To the former division belong: Euboea, Siphocles, Epidaures, Aristophanes, Antiphon, Thucydides, &c.; to the latter, Demosthenes, Euboeae, and the com- monly called Attic, Plato, and indeed Aristophanes also, may be considered as speaking a character somewhat intermediate between the two classes, and the name of middle may consequently be given to it; but it would be difficult to say exactly what a writer of this class is to be distinguished from the writers of the new Attic.

After the time of Alexander, when the Greeks were more united as a nation, the superiority of Athenian literature made the language of Athens the common language of the world, and the name which was given to the Greek, was the name of the Attic dialect. It was in the Attic dialect that the ancient Attic writers, not an Athenian by birth, who
Atticus, whose health seems to have been particularly good, if we except some attacks from ague, died at the age of seventy-seven, March 31, B.C. 34, of voluntary starvation, after he found that a disease, with which he was smitten, was incurable. He was the author of several works, none of which have been preserved. He was also a man, in which he observed a strict chronological arrangement, and traced with much diligence the genealogy of illustrious families. They included a period of seven centuries, and the names of their ancestors were termed by the Dorians of Sicily, and others, to the writers who use the Common Dial. Some late writers affected rather to imitate the pure old Attic standard than to use the modified Attic, or Common Dial, as Lucian, Arias, and the in his Analecta, Aristides. The name of Attic (Ἀττική) was given to this artificial class of writers, but especially to such imitators as Aristides. [See ARISTIDES, ΑΡΙΣΤΙΔΗΣ.] The real characteristics of the Attic dialect can only be known by a careful study of the works. The reader may consult Mitford, On the Greek Living Dialect, by Sturz, 1st ed.; Buttmann's Greek Grammar; and Matthæi's Greek Grammar.

ATTICUS, T. POMPONIUS, was descended from a very wealthy family which formed one of the chief elements of the equestrian order. He was born the 9th of March, B.C. 109, being three years older than Cicero and Pompey, and nine older than Caesar. He is sometimes called Q. Cecilius (Cic. ad Att. iii. 20), a name which he derived, as being the descendant of a patrician uncle Cecilius, who left him a considerable estate.

His early years were spent under the direction of his father, who was a literary man in his time; and his education is proved by the subsequent career of Atticus. He lived during the most stormy period of Roman history, and yet he continued to retain the friendship of the various parties which took an active part. He was a man of great public affairs. Though his life was not active in politics, he was ever ready to help the unfortunate, to whatever party they might belong. He left a large inheritance to his son Marius after he had been declared a public enemy; and yet he was on such terms with Sulla, that his general anxiety to take him with him to Italy on his return from the Mithridatic war; but Atticus excused himself without losing the favour of Sulla. He was also a good friend to Grabius, Caesar, Pompey, Brutus, Antony, and Augustus; but his most intimate friend was the Roman general, who kept up a constant correspondence. Pomponia; the sister of Atticus, was married to Cicero's brother Quintus; but the match was not a happy one, as there is plenty of evidence to show that Quintus and Pomponia did not agree. We possess the letters of Cicero to Atticus, in six books, one of the most valuable records of that important period. Atticus spent a considerable portion of his life at Athens (from 85 to 63 B.C.), having proceeded to that city about a.c. 83, that he might not be witness of the misery caused by the faction of Cinna and Sulla; and it is not unlikely, though we have no information on the subject, that he derived the name of Atticus from his residence in this city. He was an intimate friend with the Athenians, that the day of his death was termed by them the 9th of Mare, and that the name of Atticus was given to the place where he was buried, near the Areopagus, and that he had also an estate in Epirus, near Butrintum, where he appears to have spent a considerable part of his time. He returned to Rome a.c. 63, when the political horizon seemed somewhat more bright, the same year in which Horace was born. He was now a man of years, and he retired to a life, which was spent in the delights of literary retirement. He married at a late period (Feb. 12, a.c. 56) Plis, of whom we know nothing more than the name (Cic. ad Att. iv. 4), and who lived long enough to have a daughter, Pomponia (called by Cicero also Cecilia and Attentius). Married M. Vipsanius Agrippa, the intimate friend and able minister of Augustus; and his grand-daughter by this marriage, Vipsania Agrippina, was married to Tit. Claudius Nero, the son of Tiberius. After Vipsania was divorced from Tiberius, she married Messus Gallus, by whom she became the mother of a numerous family.

Attilia, this formidable conqueror was the nephew of Roas, a king or leader of the Huna, who at the beginning of the 5th century was established with his hordes in Pannonia, on the south bank of the Danube. Attila and his brother Bleda succeeded Roas a.d. 433. The first act of their reign was to conclude a peace with the Emperor Theodosius II. on terms disgraceful to the majesty of the Roman empire. This peace was renewed at intervals, and Attila extended his dominions from the Danube eastward to the Volga, and northward even to the Baltic. A doubtful provocation, or an unscrupulous ambition, urged him, in 434, to attempt the conquest of the Goths. He was defeated, and forced to retreat. He returned to his old home, and soon after, Attila, impatient of a partner in the throne, procured the assassination of his brother Bleda. In 448 the historian Priscus accompanied ambassadors sent to apologist for Attila for the non-fulfilment of the treaty; and thus, Attila saved himself from destruction, and the ambassadors could discover some evidence of his good intentions in the workmanship, as well as barbarous magnificence in the display of the rich spoils of his wars. A.D. 448. Attila and his troops then passed over the Danube and invaded the country of the Huns, and the ambassadors discovered some evidence of his good intentions in the display of his warlike power, as well as barbarous magnificence in the display of the rich spoils of his wars. A.D. 448. Attila and his troops then passed over the Danube and invaded the country of the Huns, and the ambassadors discovered some evidence of his good intentions in the display of the rich spoils of his wars. A.D. 448. Attila and his troops then passed over the Danube and invaded the country of the Huns, and the ambassadors discovered some evidence of his good intentions in the display of the rich spoils of his wars. A.D. 448.
tions. They were soon invited to a sumptuous entertainment, at which the guests were all served in silver and gold: but a dish of plain meat on a wooden trencher was set before the king. Attila's beverage was equally simple and frugal. The rest of the company were excited into loud and frequent laughter by the fantastic extravagances of two buffoons; but Attila preserved his usual inflexible gravity. A few years later he faced the prodigious task of procuring the assassination of this formidable enemy. Attila was acquainted with the real object of the mission; but he dismissed the culprit, as well as his innocent companions, unceremoniously, and compelled him to return, ever, to stone for his base attempt by a second mission, loaded with magnificent presents, which the king of the Huns was prevailed on to accept, and he even made some concessions in return. Theodoric died not long after (July 455). He left a son, who is said (Anglo-Saxon Chronicle) to have been very virtuous and mild; and this Marcian.

Attila at this time was collecting an enormous army, and threatened both divisions of the Roman world. To each emperor he sent the haughty message, 'Attila, my lord and thy lord, command thee to prepare a palace for his immediate reception.' To this insult was added a demand upon Marcian for the arraignment of any man who had ever been in personal correspondence with Attila, and sent him a ring in token of her affection. He received her advances very coolly, until at this time it suited him to demand her hand, with half the western empire as his dowry. The demand was refused, but the focus of Attila satisfied him; he assigned the reasons assigned: but he did not the less turn his arms against Gaul. A pretence for entering it was all he wanted; and he closed with a proposal from the son of Geneseric, king of the Barcis, to attack the Goths. He began by craft what was to be carried on by violence and terror. Valentinian was assured that his warlike preparations were levelled against Theodoric only: that he should ever look on the Romans as his friends, unless they espoused the cause of his enemy. At this time he exhibited Theodoric to join him against the Romans, as their common foe. Meanwhile, in midwinter he marched through Germany without halting till he reached the Rhine early in March. There he destroyed the forests of Teutoburg, down whole forests to build boats, and passing the river entered Gaul, several cities of which opened their gates to him, on his professions of friendship to the Romans. He then threw off the mask. The calamities attendant on this invasion he is said to have described by five names, a contemporary, afterwards bishop of Clermont, and by the historians of France, who have collected all the anient testimonies. But his progress was at length arrested by the combined armies of the Gauls, and Goths, under the command of Attila and Theodoric. They compelled him to make a hasty retreat from the siege of Orleans, and came up with him in the extensive plains surrounding Clavous-sur-Marne, a country well adapted to the cavalry of the Huns. There one of the most bloody battles recorded in history was fought, in which Theodoric was slain. The issue might have been considered doubtful; but the advantages of victory were gained, for Attila found it expedient to retreat. He moved slowly to the Rhine without molestation, and retired into Pannonia (A.D. 451).

After having reinforced his army, he returned to repeat his demand of the princess Honoria in the plains of Italy. He mastered the unguarded passes of the Alps, either in the latter end of 451, or in the beginning of 452, and advanced at once to Aquileia, the metropolis of the province called Venetia, which he invested, and utterly destroyed after a siege of three months. Not a house was left standing; nor was person left alive who fell into the hands of the conquerors. Attila, however, did not pursue the game, undertook the same fate. It is commonly believed that the city of Venice owed its origin to the inhabitants of the mainland, who fled at this time to the islands in the Venetian lagoon, called Cressata, or Cressica, speaking of the Venetians, as he tells those of the French, who had no other fence against the waves than hurdles; no food but fish; no wealth besides their boats, and no merchandise but salt, which they exchanged for other provisions. Attila treated Milan and Pavii very severely: he neither fired the buildings, nor massacred the inhabitants. From Milan, Attila purposed to advance upon Rome; but as he lay encamped on the banks of Lake Benacus, he was approached by a supplicant, a debauchee, and a beggar, named Tertius (Stephen) [A.D. 452]. He received them with kindness and respect, and consented to a truce with Rome, the duration of which was to depend either on the fulfilment of his claims on the princess Honorina, or the payment of a sum of money. Honorina, constrained in this instance to check the implacable temper of the Hun. His truce, inured to the rigours of a northern climate, and the rude simplicity of a pastoral life, began to melt away in the luxurious plains of Italy; and, after great distress and loss, still hung on his march with a constant hostility. His friends reminded him of the fall of Alaric, after having plundered the Eternal City, and the example was not without effect upon his own mind. Nor were the dignity and eloquence of Leo void of influence; and the memory of that influence probably was preserved and amplified in the fable which represents St. Peter and St. Paul appearing to the barbarian, and threatening him with instant death if he would not release the captives and pay the money; but that, on the signature of this treaty, Attila retired beyond the Danube.

The death of Attila took place in 453. The common opinion is, that he died by the bursting of a blood-vessel on the exertion of some violent emotion. But it is added to his many other wives: some, with a natural suspicion, impune it to the hand of his bride. Jornandes, transcribing, probably, from Priscus, relates the current story, and the solemn ceremony of his last farewell. He died after he had subdued so many countries in so short a time. The vanity of the Romans refused to honour Attila with the title of king; they only styled him general of their armies, disguising an annual tribute under the name of a gift. He was afterwards deified. A eulogy, given by Jornandes, presents the genuine features of the Gallic race: he was low in stature, broad-chested, and of powerful frame—dark-complexioned, with a few straggling hairs in the place of beard—with a large head, flat nose, and small eyes. His carriage was fierce and haughty: and no one could behold him without concluding that he was sent into the world to disturb it. It was a saying of his own, that the grass never grew on a spot where his horse had trod. A story is told by Priscus, the Franciscan monk, of the Frankish king at his death, that Attila was morose and importunate. The Frankish king at his death, that Attila was morose and importunate. The Frankish king, to make the story more touching, added to his titles of that of Flagellum Dei. His empire was overthrown and disjoined immediately upon his death, by the disputes and disensions of his sons and chieftains; the fate of impiety unholy empires hastily erected by violence. (Jornandes, De Rebus Geticis, and Priscus, Excerpta de Legationibus,) furnish the best authentic materials for the history of Attila. For modern compilations, see Busi, Histoire des Peuples de l'Europe, and Du Guignes, Histoire des Huns, besides the works of Gibbon, which have been our chief authority, and the Anc. Hist.)

ATTELBRUGH, a town in Norfolk, in the hundred of Shropham, on the high-road from London to Norwich, through Thetford; 14 miles from Thetford, and 14 from Wymondham. It is now a small and unimportant place, but appears to have been of some consequence in former ages, though its origin and early history are involved in considerable obscurity. The church town and aisle, being part of the Anglo-Saxon church originally built here, but now restored, is of the edifice of later date, and the decorated style, with some fine windows and excellent details. It is a cross church, and collegiate. The foundation of the college of the Benedictines, the monks, and the priors of Richard II., and carried into effect by his executors or trustees in the time of Henry IV. It consisted of a master, warden, and four secular preists. Attilburgh has three fairs in the year, one a market and a fair of worship for Methambo and Bapana. The population in 1831 was 1819.
ATTOCK, a city and fortress on the east bank of the Sinds or Indus, within the territory of Runjeet Singh, Rajah of Lahore, in 32º 30' lat. and 72º 30' long., has been captured by Akbar in 1591, and takes its name from that branch of the Indus which flows from Caubul and joins the main stream about eight or ten miles above Attock. Ferishta calls this branch of the Indus 'Nilah,' or Blue River, because of its resemblance of a dark blue. According to Mr. Rennell, the name of Attock, which in the original language of the country means forbidden, was given to it from the circumstance of its forming the original boundary of Hindostan in that quarter, which body of water, however, was considered not safe for a residence, over which they had not special permission. According to Dr. Robertson (Historical Disquisition concerning Antient India, p. 93), this place is mentioned by Ptolemy, as well as by an eastern geographer, as a place named Aradun, on the river Oponbhe. They give its latitude 32º 30', which position agrees more nearly with modern observation than it has usually been seen in similar cases.

It is generally admitted that Alexander must have crossed the Indus on his invasion of India, in the spring of 336 B.C., at or near Attock; but it is quite as likely that he crossed above or below, as just at the place. It is also believed that Timur, when he invaded India in 1398, crossed the Indus at the same place; which was also the route of Nadir Shah in 1738.

The Indus, as it flows in front of Attock, is nearly 800 feet (260 yards, according to Elphinstone) broad, and of considerable depth; but it runs with so rapid a current that no vessel can be anchored in it. The banks and islets are of black stone, have acquired smoothness from the force of the stream and the constant friction of the particles of sand which it carries down, so that they shine like polished marble. Notwithstanding the rapidity of the stream, it is easy to cross in boats, and the water is navigable within a year after the first floods. The Rajah of Lahore now keeps a bridge of thirty-seven boats at Attock, for the purpose of transporting his army across the river.

Attock was formerly the residence of the Afghan government, and was then a place of considerable importance: but since 1818, when it came into the possession of the Rajah of Lahore, it has been fast falling to decay. It is built in the form of a parallelogram, and stands on a low hill on the east bank of the river, to which it offers a front of 1200 feet: the walls, which recede from the river, are of double that length: they are built of polished stone, and make a handsome appearance. The place has the disadvantage, in a military point of view, of being commanded by both banks of the Indus. The Indus is navigable by small vessels to the Rajah of Lahore, on the opposite bank of the river. (See Rennell's Memoir; Elphinstone's Cabul, p. 623; Report of Committees of House of Commons on Indian Affairs, Second Report; Rennell's Memoir on the Indus. London Geog. Journal, 1833.)

ATTORNEY is a person substituted (atourné, attorney), from atourner, icm hee. to substitute, and signifies one put in the place or turn of another to manage his concerns. He is either a private attorney authorized to conduct cases, and do other acts for his principal by an instrument called a letter of attorney, or he is an attorney at law, practising in the several courts of common law. The latter description only will be treated of under this head. As to the former, see ATTORNEY AT LAW.

The ability of an attorney to act in a professional capacity is derived from his having been admitted to practice law in his state. An attorney must be of good moral character and have completed the necessary legal education and training to be eligible for admission to the bar. The specific requirements for admission vary by jurisdiction, but generally include passing a bar exam, meeting ethical requirements, and demonstrating the ability to practice law.

1st. The admission of attorneys to practise, their enrolment, and certificates:—
2d. Their duties, longa, privileges, and disabilities.
3d. The consequences of their misbehaviour.
4th. Their remedy for recovering their fees, &c.
1st. The admission of attorneys to practise, their enrolment, and certificates.—The earlier regulations as to the entry of attorneys into the bar are in the case of 3 Jan. 1654 (25 Car. I. c. 1, and 1654) required that he should serve for five years as clerk to some judge, serjeant, counsel, attorney, or officer of court; that he should be found, on examination by appointed practicioners, of good ability and honesty; and that he should 'be situated, for a time, over without special permission. According to the 2 Geo. II. c. 33, s. 5, now in force; which provides that no person shall practice as an attorney in the superior courts unless he has been bound by contract in writing to serve for five years as a clerk to a regular attorney, and has continued five years in such service, and has been afterwards examined, sworn, admitted, and enrolled in manner in the act mentioned, under penalty of 50l. and an incapacity to sue for five years. This provision is by subsequent statutes extended to practising in the county court or the quarter sessions; and by 34 Geo. III. c. 14, s. 4, any person practising as an attorney without due admission and enrolment shall be disabled from suing for his fees. By the 1 & 2 Geo. IV. c. 28, 3 Geo. IV. c. 16, persons having taken the degree of bachelor of arts, or bachelor of law, in the university of Oxford, Cambridge, or Dublin, and having served under another attorney for six years, shall be admitted as attorneys, without having been actually employed during the three years by such attorney or his agent in the business of an attorney, shall be qualified to be admitted as fully as if they had served five years; provided the degree of bachelor of arts was taken within nine years of their admission. The degree of bachelor of law was taken within eight years after matriculation: the binding to the attorney must also be within four years after the taking of the degree. By the 22 Geo. II. c. 48, in the affidavit made by the subscriber of the articles of the execution thereof by the attorney and by the clerk, which affidavit must be filed in the court where the attorney is enrolled, and be read in open court before the clerk is admitted and enrolled an attorney. Acts of indemnity are however occasionally passed, relieving persons who have neglected to file their affidavits within the limited time. By the last general stamp act, a duty of 12d. is imposed upon the articles of clerkship of attorney, and 1½d. on the counterpart; and by the Geo. III. c. 14, s. 4, these affidavits must be accompanied with the certificate of the proper officer in that court where the party proposes to practise as an attorney. No attorney is allowed to have more than two articled clerks at once, unless only vowing have the court's permission; and for the time during which such attorney holds any benefit, he is bound to give the court's notice on his own account, and not at any time during which he himself is employed as clerk by another attorney. The clerk, in order to be admitted an attorney, must actually serve five years under his articles; but by 22 Geo. III. c. 44, in case the attorney dies, or discontinues to practise, or the articles are by mutual consent cancelled, then the clerk may serve the residue of the time under articles to any other practising attorney, and the new articles are not subject to stamp. 34 Geo. III. c. 14, s. 5, except the duty of 1½d. The articled clerk may serve one year, but not a longer time, with the agent of the attorney to whom he is articled: a plan generally adopted by country clerks, who thus acquire a year's experience of the practice in London, without delays of their admission; and by the 1 & 2 Geo. IV. c. 48, s. 2, an articled clerk who becomes bond fide a pupil to a barrister, or certificated special pleader, for one whole year, may be admitted in the same manner as done by the regular articles for the year, which will render him bound. Before the clerk can be admitted an attorney, he must cause an affidavit of the actual service under the articles, sworn by himself or the attorney with whom he has served, to be filed in the court to which he has been admitted; and, by the Geo. IV. c. 48, a Queen's Counsel has only paid the stamp duty on the articles, and that he will truly and honestly demean himself as an attorney; and must take the oaths of allegiance and supremacy, and subscribe the declaration against popery, in Romano-Catholic, the declaration and oath prescribed by the statute 31 Geo. III. c. 32, s. 1. The attorney pays a stamp duty

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on his admission of 51. His name is then enrolled without fee by the officer of court, in books appointed for the purpose: to which books all persons have free access, without payment of any fee. When the attorney is admitted, he subscribes a roll, which is the original roll, and which is preserved by the court, and a recorded list of his officers, and from which the names are copied into the books. An attorney duly sworn, admitted, and enrolled in any of the superior courts of law, may be sworn and admitted in the courts of equity without fee or stipend. The court of Westminster may be sworn, admitted, and enrolled, an attorney of his Majesty's courts of law; and an attorney in a superior court at Westminster is capable of being admitted in any inferior court. An attorney duly admitted and sworn of record at Westminster, may, by the consent in writing of any other attorney of another court, practise in the name of such other attorney in such other court, though not himself admitted in such court. But if any sworn attorney knowingly permit any other person, not being a sworn attorney of another court, to practise in his name, he is disabled from acting as an attorney, and his admission becomes void.

In addition to swearing, admission, and enrolment, an attorney, in order to be duly qualified for practice, must take out a certificate at the Stamp-office every year between the 1st November and 16th December for the year following. The duty on which is 12l. if he reside in London or Westminster, or within the county of Middlesex, or county and boroughs within the city of Edinburgh, and has been in practice three years; or 6l. if he has been admitted a less time: and if he reside elsewhere, and has been admitted three years, 6l.; or if he has not been admitted so long, 4l.; and if he practise in any of the above situations, and is in the receipt of duty, he is liable to a penalty of 50l. and an incapacity to sue for his fees. (55 Geo. III. c. 184, s. 27.) But by the 44 Geo. III. c. 98, s. 10, these penalties can only be sued for by the Attorney General, like other stamp penalties, and acts of indemnity are occasionally passed to relieve attorneys who have neglected to take out their certificates in due time. The omission by an attorney to take out a certificate for one whole year incapacitates him from practising, and renders his admission void; but the courts have power to re-admit him on payment of the arrears of certificate duty, and such penalty as the courts think fit. (37 Geo. III. c. 90.)

9. The duties, functions, privileges, and disabilities of attorneys.—The principal duties of an attorney are care, skill, and integrity; and if he be not deficient in these essential requisites, he is not responsible for mere error or mistake in the exercise of his profession. But if he be deficient in either, or can neither supply the want of his client, he is liable to a special action on the case; as, if the attorney neglect on the trial to procure the attendance of a material witness; or if he neglect attending an arbitrator or other officer in whom the cause is referred; or if he omit to charge a defendant in custody at the suit of his client, in execution within the proper time. When an attorney has once undertaken a cause, he cannot withdraw from it at his pleasure, since this would injure his client; and though he is not bound to proceed if his client neglect to supply him with money to meet the necessary disbursements, yet before an attorney can abandon the cause on the ground of want of funds, he must give a sufficient and reasonable notice to the client of his intention. When deeds or writings come to be impressed, an attorney has the right of impressing them; but the court, on motion, will make a rule upon him to deliver them back to the party on payment of what is due to him on account of professional services and disbursements, and particularly when he has given an undertaking to re-deliver them; but, unless they come to his hands strictly in his business as an attorney, the court will not make a rule, but leave the party to bring his action against the attorney.

An attorney duly enrolled and certified is considered to hold his commission for the time that his name stands on the roll; but the court has still some privileges, though they are now much narrowed. Till lately he was entitled to sue by a peculiar process, called an attachment of privileges, and to be sued in that court; but the practice is now disallowed for uniformity of process. 2 Will. IV. c. 29, has abolished the privilege of not giving bond, and an attorney now sues and is sued like other persons. By reason of the supposed necessity for his presence in court, an attorney is exempt from offices requiring personal service, as those of sheriff, constable, overseer of the poor, and also from serving as a juror. These privileges being allowed not so much for the benefit of attorneys as of their clients, are confined to attorneys who practise, or at least have practised within a year.

An attorney is no subject to some disabilities and restrictions. No attorney practising in the King's Courts can be under-sheriff, sheriff's clerk, receiver, or sheriff's bailiff. (1 Hen. V. c. 4.) No clerk of the peace, or his deputy, can assume the name of attorney, and be holder of a penalty of 50l. (22 Geo. II. c. 36.) By rule of Michaelmas Term, 1654, no attorney can be lese in ejectment, or bail for a defendant in any action. By 3 Geo. II. c. 18. a. 2, no attorney can be a justice of the peace while he practises at the Quarter Sessions, and must be a Commissioner of the Land Tax without possessing 100l. per annum. By 12 Geo. II. c. 13, no attorney who is a prisoner in any prison, or within the rules or liberties thereof, can sue out any process, or commence or prosecute any suit, under penalty of being struck off the roll, and incapacitated from acting as an attorney for the future; and the punishment is the same for any attorney who suffers an attorney in prison to prosecute a suit in his name: but an attorney on paying a fine of 10l. is not incapacitated from acting as an attorney for the future. If he shall be convicted of malpractice in his practice, he shall not be guilty of misdemeanour in confinement; and the statute does not prohibit his defending, but only his prosecuting suits.

3. The consequences of an attorney's misbehaviour.—The court which has admitted an attorney to practicet with a view to the public benefit of an individual, is entitled to the services of an attorney, so long as he does not misbehave. If he is charged on affidavit with fraud or malpractice, contrary to justice and common honesty, the court will then consider whether he can be convicted of the charge, and if he does not distinctly deny the charges imputed to him, or if he swear to an incredible story in disproof of them, the court will grant an attachment.

If the misconduct of the attorney amounts to an indictable offence, the court will in general cause him to be indicted by the party complaining, and will not call upon him to answer the matters of an affidavit. If the attorney has been fraudulently admitted, or has been convicted of felony or any other offence which renders him unfit to practise, or if he has knowingly named to be used by a person unqualified to practise, or if he has himself acted as agent for such a person, or if he has signed a fictitious name to a demurrer purporting to be the signature of a barrister, or otherwise grossly misbehaved himself, the court will order him to be struck off the roll of attorneys. But striking off the roll is not a perpetual disability: for in some instances the court will permit him to be restored, considering the punishment in the light of a disciplinary measure.

4. The attorney's remedy for recovering his fees. An attorney may recover his fees from his client in an action of debt or indebitatus assumptus, which he may maintain for business done in other courts as well as in that of which he is admitted an attorney. But an attorney cannot recover for conducting a suit in which, owing to gross negligence or other cause, the client has had no benefit whatever from the attorney's superintendence. By the 2 Geo. II. c. 23, s. 23, no attorney shall sue for the recovery of his fees or disbursements, in the suit of his client: and even if he is admitted an attorney, he must himself act as agent for such a person, or if he has signed a fictitious name to a demurrer purporting to be the signature of a barrister, or otherwise grossly misbehaved himself, the court will order him to be struck off the roll of attorneys. But striking off the roll is not a perpetual disability: for in some instances the court will permit him to be restored, considering the punishment in the light of a disciplinary measure.
business done in a court so as to render his bill subject to taxation. For these we must refer to Todd's Practice, tit. Attorney.

To assist an attorney in recovering his costs, he has a lien for the amount of his bill upon the deeds and papers of his client, which has come into his hands by reason of his professional employment; and till his bill be paid, the court will not order them to be delivered up, nor can an action be maintained for them. The attorney has also the same lien on any money recovered by his client which comes to his hands in any way. In addition to this, the attorney has the benefit of a lien upon the money of his client, in the hands of others, which is created by Rule 2 Will. IV. reg. 1, s. 83. (See Bac. Abrdgment, tit. Attorney, 7th edition; Todd's Practice, 9th edition, chap iii and iv.)

ATTORNEY-GENERAL. The attorney-general is a ministerial officer of the crown, specially appointed by letters-patent. He is, in principle, nothing more than the attorney for the king, and stands in precisely the same relation to him that every other attorney does to his employer. The addition of the term general to the name of the office, implies an additional dignity of the attorney appointed to act for the crown in particular courts, such as the attorney for the Court of Wards, or the master of the Crown Office, whose official name is merely attorney and attorney for the king in the Court of King's Bench. The dignity of the attorney-general, as the holder of a lien upon the wealth of the kingdom, has become one of great dignity and importance.

The duties of the attorney-general are to exhibit informations in all criminal cases, to superintend the conduct of all proceedings, and to lay the charges of the crown. He has various miscellaneous duties, as to tend to disturb or endanger the state; to advise the heads of the various departments of government on legal questions; to conduct all suits and prosecutions relating to the collection of the public revenue of the crown; to conduct all suits for the protection of the lands and other possessions of the crown; to institute and conduct suits for the protection of charitable endowments, in which the king, as patron patriarch, is entitled to interfere; and generally, in all courts, where the interests of the crown are in question.

The present rank and precedence of the attorney-general have frequently been the subject of discussion and dispute. In the early history and origin of this office, upon which the question of precedence in a great measure depends, is matter of great obscurity. There is no doubt that at all times the king must have had an attorney to represent the interests of the crown in the several courts of justice; but in what capacity and to what extent he held this rank and importance as the attorney-general of the present day. There are no traces of such an officer till some centuries after the conquest; and it is clear that, until a comparatively late period, the king's sergeant was the chief executive officer of the king (Spelman, Gloss. tit. Serviens ad legem). In the old form of proclamation upon the arraignment of a criminal, the king's sergeant was, till very lately, always named before the attorney-general; and previously to the Commonwealth, he invariably spoke before him in all criminal prosecutions, and performed the duty of opening the pleadings, which since the Commonwealth has always been done by the junior counsel. In the reign of James I. a curious altercation between Sir Francis Bacon, who was then attorney-general, and a sergeant-at-law, upon this subject, is related in Bulstrode's Reports, vol. iii. p. 32, upon which occasion Lord Coke, who was then chief justice, said that no sergeant ought to move before the king's attorney, when he moves for the king; but for other matters, to have any voice in it, in order to declare that when he was the king's attorney, he never offered to move before a sergeant, unless it was for the king.

All questions respecting the precedence of the attorney-general and the sergeants were terminated by a special warrant of his late majesty, George V., when Prince Regent, in 111, by which it was arranged that the attorney-general and the solicitor-general should have place and audience at the head of the English bar.

A discussion arose during the session of parliament 1784, as to the Scottish appeal in the House of Lords, upon the question of precedence between the attorney-general and the lord advocate of Scotland, which was finally decided in favour of the former.

ATTRACTION, from two Latin words signifying a drawing towards, a term the meaning of which has been obscured by the verbal disputes of a century and a half. Considering the great importance of correctly understanding a word which is in such universal use, we shall at once proceed to point out the various ways in which it has been misunderstood. The applications of the word to the experimental facts which it implies, such as attraction of gravitisation, attraction of cohesion, capillary attraction, &c., must be looked for under the heads Gravity, Cohesion, Electricity, &c.

When a word has been the subject of dispute, especially when there have been ignorant and learned men on both sides, it generally happens that it has been applied to the various senses in which attraction has been used. We shall therefore explain what we mean by mathematical attraction, mathematico-physical attraction, and physical attraction.

The reader may supply any terms which he likes better, if he will take care to distinguish their meanings.

(1) When we see the body A move towards B, we see the effect that the attraction of A on B has produced in B. This attraction is known as an attracting power, and the body A is known as the attractor, and the body B as the attractee. If we could draw a curve showing the relation of the distance between A and B to the force of attraction, we might then be able to calculate the force of attraction at any point, and from this the effect of the force of attraction on the body B. We might then be able to calculate the effect of the force of attraction on the body B, and from this the effect of the action of the attracting body A on the body B. We might then be able to draw a curve showing the relation of the distance between A and B to the force of attraction, and from this we might be able to calculate the effect of the force of attraction on the body B, and from this the effect of the action of the attracting body A on the body B.

But if we only see the fact, and measure the law of the motion, and find thereby that A moves as it would move if it had an attracting power on B, and then find what is to be found in the usual way, we may be using the same law may be used as a means of deducing future phenomena. A person who admits so much, admits what we mean by mathematical attraction. We might instance various mechanical means of speaking, which in strict physics are false. The sun throws nothing but light, and it is because an opaque body prevents his throwing direct light that there is a shadow. But the phenomenon is as if the sun did throw the positive appearance called shadow, and the phrase is admitted. The sun moves round the earth, and the day should be as long as a day but turns round its axis once a day; but we see the same appearances as would be presented if the sun did move round the earth. But the most direct use of the mathematical law is not in any sense (see), which we speak as if a body really endeavoured to go direct away from a centre, when in truth it endeavoured to keep its own straight line of motion unaltered. But the effect being exactly that of an endeavour to move directly away, the term is admitted, is, not necessarily more liable to be misunderstood than attraction.

(2) When A not only moves towards B, but it is plain that B is in some way or other an agent in the motion of A, there is what we will call mathematical-physical attraction. Place a needle so as to swim on water, and hold a magnet north of it; the needle will slowly move towards the north. But place the magnet east, and the northward motion will be almost immediately destroyed by the restituting nature of the needle, and the needle will move south, and so on for any other point of the compass. Here then, in addition to the conclusions we might draw from the preceding paragraph, we see that the magnet is in some way or other an active agent. In the preceding case, B might be moving north, away, so far as we are supposed to know to the contrary, A might continue its motion just as before; but in the present case, the needle always moves towards where the magnet is, and never moves towards where the magnet is not, no cause and effect, then, have no meaning, if we may not say it. So it is, that the attracting (draws) the needle. But whether it draws it directly, or whether it acts upon some all-pervading fluid (this word is really almost synonymous with unknown cause), as some have supposed. But fluid acts upon the needle, or whether any other intermediate cause exists, is, not necessarily more liable to be misunderstood than attraction.
lying down on the ground, the contrary? We can only answer, that if by drawing down the whole atmosphere, we should alter the day only one second, every part of the atmosphere would do its part of one second. A mind unused to mathematical considerations does not easily comprehend the very small things. One object may be scandalised at the idea that a man's hand would move the earth. He clearly has no idea of any motion smaller than that which his eyes can see.

We shall now cite the experiment of Cavendish, described in Phil. Trans. 1798. The balance was held up by another on a horizontal lever, no horizontal oscillation takes place; but any little disturbance makes the lever turn completely round again and again, till friction restores the equilibrium. Cavendish balanced two balls of lead very exactly, the tension of gravity was measured by the duration of these oscillations; and thence, knowing the duration of the oscillation which the earth creates in a pendulum, and also knowing the relative densities of lead and water, he ascertained that, if the commonly received law of gravitation were true, the earth's mass would be 54 times as great as that of water. Hutton, on recalculating his result, found reason to think the 4 should be 4. We shall immediately notice this result again.

It is evident that matter, a mountain contiguous to a plumb-line or a spirit-level will, in a slight degree, alter the position of the former, or the surface of the latter. We can hardly expect to measure the tilting displacement by direct means; but since the instruments are provided to any one who medical or astronomical instruments, it is plain that a false plumb-line or level may show itself by giving false positions to the stars. And it is well known that the mean of a number of observations detects very small errors, or errors in the magnetic needle, better than the examinations of a single observation. If, in 1772, Maskelyne (one of the best observers of his time) proceeded to Scotland, to try the effect of Scheellhain, he made a great number of observations both north and south of the mountain; he argued that since the plumb-line, if disturbed, must tend towards the mountain in both cases, the discordance he observed would be that of the observer's mind.

He found in this way, that the north plumb-line and the south plumb-line made an angle of 11° 20' more than could be explained by the difference of latitude of his two stations. Hutton, upon examining the mean density of the earth from this result, found it five times as great as water; and very nearly that afterwards produced by Cavendish, when he is considered that both the mean density and form of such a mass as Schebellhain could not be very accurately determined. Maskelyne's close forty observations, which be considered the best; but Baron Zach obtained the same result by reducing the whole 337.

In 1810 the same Baron Zach undertook a similar labour, in which he employed a different instrument, and a different method, to that of observations. He made a geodometrical survey in the neighborhood of Mannheim, and he had three small observatories near Mount Mines, north of that town. He obtained the latitude of these observatories by measuring the whole earth's position with respect to other stations too distant from the mountain to be sensibly affected. He then obtained the latitude of his observatories by astronomical observation on the spot. All three, without exception, gave a difference of 2' between each other, which was remarkable; the position of the observed latitude was greater than the measured, being the sort of effect which would be produced by attraction in the mountain. M. Zach published the fullest detail of his method, and all the observations, in his Attraction des Masses, Avis de 1814. For astronomical measurements, see Hutton's Tracts, vol. ii. and Phil. Trans. 1778.

We now come to the question how the attraction of the par-
ticles of one heavenly body on those of another is established. For details of this very extensive subject, see Gravitation, and articles there referred to. The reason of the argument is this: the phenomena which do take place in the heavens are those which common and undisputed mechanical and mathematical reasoning shou'd take place if the Newtonian law be true. And every phenomenon of importance has been gradually brought under the consequences of this law by various analysts. To recount instances would be to make a summary of astronomical terms; but we will select one, which makes the nature of the phenomena of the tides. For, whereas the place of the moon or a planet is predicted within from half a second to a second of time, the time of high water cannot yet be predicted within some seconds; by force of which this phenomenon may be affected by winds or the nature of the coast, is not difficult to conceive; but the following result is a striking specimen of accordance between theory and fact. If the tides proceed from Newtonian gravitation, the mean tide-day, or interval between successive times of high water, must be equal to the time between the moon's coming on the meridian above and below the horizon, or, roughly speaking, two tide-days make a lunar day. It is found by analysis, that, if the Newtonian theory be true, the amount of the tide, or of the height of the tide, ought to vary as the square of the distance of the moon from the earth, and in the lunar-day, though particular instances of the two may differ many minutes. This is found to be the case: for if the tide-day were more than half the lunar-day by as much as the amount of the tide would be to the amount of the fluid to cause the tide. If a spring, lagged, one with another, by a "daily," two thousand years would have seen high water at every possible part of the lunar-day. But for two thousand years it has never been densified that high water takes place at every part with the same effect. This is the only effect of moon's coming on the meridian. Again, a permanent retardation would, in course of time, bring high water when the moon was precisely on the meridian, for a long succession of days together: a result which never has been observed. In which, according to the Newtonian theory, is impossible.

An immense number of accordances between theory and observation, and there being no assignable discrepancy within the limits of observation, is the proof of the Newtonian law. And it must be observed that this has not been done in a day, or by one person, but in a century and a half, and by philosophers of several countries—not by men prejudiced in favour of Newton, but the contrary; for it was long before his doctrines found their way over to the continent, and the dispute about the invention of fluxions had laid the foundations of a strong anti-Newtonian prejudice. We may observe, also, that England, where the veneration of Newtonamounted almost to idolatry, is not the repository of his system than either France, Germany or Italy; so that the Newtonian system was really fully established by those who had every national and personal bias to endeavour to overthrow it. This is the necessary inductive proof, and the argument, which is so strongly sustained by the name and authority of Newton. This argument, it will be observed, can be clearly brought in any case; for every system, true or false, will have an originator, who will certainly enjoy great reputation as soon as his ideas come to be universally received. But it is an argument which is of force equal both against a true and a false system, not having any tendency to furnish a test between one and the other: unless it be meant to be asserted that nothing is to be considered a system from the time at which it comes from a man of known talents and knowledge.

We shall now give some account of the disputes upon the word attraction; but, first, we shall show how it was used by Newton. The writings of this great man may be divided into mathematical and physical. His Principia are mathematical, interspersed occasionally with scholia, in which conjectures are made upon the cause of this mathematical, or at most mathematico-physical, attraction. These conjectures, or speculations, have all been called physical attraction, as the following extract from the Principia will show:—

"Thus far I have explained the phenomena of the heavens and the sea by the force of gravity; but I have not yet assigned the cause of gravity. . . . The reasons I have yet derived from phenomena, and I do not invent hypotheses. For whatever is not deduced from phenomena is called hypothesis; and hypotheses, be they metaphysical, physical, of occult qualities, or mechanical, have no place in experimental philosophy. . . . It is enough that gravity really exists, and acts according to laws laid down by us; and suffices to explain all the motions of the heavens and the sea." 16

The repeated use of the words not yet," no doubt, would lead us to suppose that Newton thought that the cause of attraction might be discovered; and the sentence next following our preceding quotations shows that he leaned towards the hypothesis that the motion of the tides was the effect of the interaction of the gravitating masses as a whole. But afterwards the hypothesis of those who constituted him their opponent: "Nothing might be added about that most subtle spirit which pervades and lies hid in all dense matter, of which the bodies mutually attract at the smallest distances, &c. . . . But this cannot be explained in few words; neither is there a sufficient number of experimenters by which the laws of action of this spirit can be accurately determined and shown." (Principia, Schol. Genn. at the end.)

Again, in the Optics, Newton dwells upon the same distinction between a phenomenon and its cause, and says that attraction may be caused by an impulse or some other unknown cause. But once for all, both against Newton and Huyghens, we observe, that the Newtonian system is too bold to attempt the difficulties of the question where it found them. If this fluid have the common properties of matter, what is there to explain the mutual repulsion of its particles? Must they have a fluid quality, and an unknown constitution, or must an unknown cause of repulsion take the place of an unknown cause of attraction? If this fluid have other properties unknown to matter as we see it, it is then a purely gratuitous supposition, as difficult as what we call gravitational attraction. It is a matter with one more quality than we can directly see or feel.

Leibnitz called attraction an occult quality, and a miracle. The first term was the horror of the continental philosophers about his time. Their predecessors had attributed various properties to matter which they could not dispose of in a system, which were justly called occult (or hidden). In their desire to be rid of all such, succeeding philosophers would not only abolish the qualities of matter which they had invented, on which they could place absolute power, but they tried also to abolish their own ignorance of the causes of the sensible qualities of matter. They would not have occult causes, and Leibnitz plainly confounds occult quality with occult cause. But it is needless to dwell upon the fact that the ultimate causes of all qualities are occult. When Newton adopted the word attraction, he did not take it and fix the meaning of a word which till his time had been ambiguous; still less, as some have asserted, did he retain a mystical meaning, which his followers retained before the time of Newton, the word attraction was frequently used in our second, or mathematico-physical sense; for example, in the English translation of J. B. Porta, A.D. 1658, where to 'attraction' is applied for to 'draw care'; the author of the treatise says 'draw care lay together.' But the philosophic use of the word is more conspicuous in Sir K. Digby's Treatise on Bodies, A.D. 1669, where it is said that wherever the first cause of the motion proceeds from that body towards which the motion is made, the effect is properly called attraction, which is illustrated by the case of fire and air, in which, though there is an intermediate cause assigned by himself—namely, that the fire rarefies the contiguous air, which therefore ascends, and the surrounding air rushes in to supply its place—the author the fact that the fire is the first cause of attraction; so that, in fact, they must assume a principle as to matter which they immediately proceed to oppose as to attraction. [See Berkley, Immaterialism.] Again, in
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speak of the place where matter is, they assume that the boundary of impenetrability is the same as the boundary of cohesion, and therefore, unless altered by several circumstances unlikely. [See Reflexion.]

2. We have those who would substitute pure hypothetical causes, such as Newton declines entering into, to explain the phenomenon of attraction. One writer requires that the body itself should be composed of two distinct sets of particles, the one set of water, the other of some volatile fluid from which he thinks he deduces attraction; another is satisfied with an efflux and reflux of a fluid from and to the body, but he remains at a loss to explain the centrifugal forces: evidently confounding the nature of the two in a manner which could not have been done by any person who had read Newton. A third fills the whole universe with streams of matter which are always passing through each other, and in this view does not shall we observe, that, in their attempts to produce an explanation of the phenomenon, they admit the phenomenon itself, which is all that Newton contended for; but as their motto is that of the Templars, Samper fertur Leo, they must have Newton on the other side, which is done by making him the advocate of what we have called physical attraction.

3. We have those who leave out of view the main fact, that the weight of the same phenomena as they really are, and treat the result as hypothetical, as well as the principle. 'Let the idea,' says one writer, 'of particles of matter attracting each other be impressed upon the mind, and it will then dilute upon their mutual actions, calculate the density of substance composing them, and be applied at pleasure to empty space, and show in what manner their motions will be disturbed by the actions of each upon the other.' But it is here forgotten that the 'whirls' alluded to were not made at pleasure, but they were 'whirls' actually taking place which were examined, in order to see how they did whirl. Newton laid by his theory of attraction for years, as a forgotten thing, because he found that, with the received notions of the earth's magnitude, it would not give the motion of the moon as it was and is only when he received the more accurate measurement of Picard that he resumed his inquiry. Did he whirl his planets at pleasure?

4. Another class of objects cannot conceive how attraction acts, and therefore they reject it. This argument is wholly unanswerable, because it is impossible to see on what part of the subject it bears, or how it is shown to be unreasonable to admit nothing as proved, except what can be demonstrated absolutely by the senses. It is a mistake in logic in terms, can be rejected on this ground.

5. All the above objections have been at one time or other advanced by men of knowledge; there remains one class more, namely, that of men who, being ignorant of two or three of the six or seven fundamental principles, are not found in the heavens, on which they deny the truth of the principle. To this class, we are happy to say, personal asperity, and imputations of intentionally misleading others, have been for the most part atoned upon the supposed mistake is a confusion between the words velocity and force, being much the same as if they confounded the drops which are pouring into a cistern for the time being, with the whole body of rain in the cistern itself. We quote another instance. A certain traveller remarks that it cannot be that the sun attracts a planet, at the very time when the planet is flying off from it. 'What more could it do, if it were really repelled?' he does not see that the same argument applies to stone thrown up into the air; and moreover that what it could do more, if really repelled, would be to describe a curve instead of one always concave towards the centre of force. To those who have acquaintance with mechanics it is unnecessary to say anything upon such objections. To those who have not, we recommend, if they form an opinion upon this question, which it is now necessary they should do, to follow either those who have studied it, or those who have not, whichever they have found most advantageous in the common business of life.

The history of attraction, independently of that of astronomy, consists in some scattered hints upon the principle, to be found in writers of all ages, previous to the time of Newton, sometimes as a mere word expressive of an unknown cause, but always preserving a principle that like things must always move towards like.

Mention of something of the kind is found in Aristotle, Plata-"
"tian, (who held it as a very ancient opinion that the moon's centrifugal tendency was balanced by her weight), Locrius, and other ancient writers. Reoberval, Keplcr, Galilei, and others, revived the idea, but without deducing any phenomena, except that of the descent of falling bodies, which was explained by the same plan. Newton, by showing that the law of attraction must be the inverse square of the distance; but without any substantial reason. Huygens found the law of the centrifugal and centripetal forces of a body moving in a circle; and Hook described the principal phenomenon of the comet in 1682, and the centripetal forces by a law similar to that of Newton without deducing any of the heavenly motions. The story, therefore, of Newton's being led to the notion of attraction by the fall of an apple, is most probably incorrect; though his thoughts might have been turned in that direction, here, as in the case of the prismatic spectrum, our idea of Newton's power is enhanced by knowing the fact that the notion, and even the very law, had already been in such hands as those of the men we have mentioned. Newton was the first who showed that Kepler's laws [see Astronomy] were necessary, upon the supposition of an attraction inversely as the square of the distance; and impossible upon any other.

On the continent, the Cartesian doctrines generally prevailed; but, as early as 1722, Hevelius broached the question, in his Discourse on the Figure of the Stars, for the progress of the application of the principle since that time, see Astronomy.

ATTITUDE:-, from the Latin, means the set of rubbing together. For its effects, see Friction, Heat.

ATTWOOD, GEORGE, was born in 1745, took a distinguished degree at Cambridge in 1769, and afterwards became fellow and tutor of Trinity College in that university. He graduated M.A. in 1768 and was elected a fellow of his college in 1770, and died in 1807. He is known by his treatise On the Rectilinear Motion and Rotation of Bodies, Cambridge, 1784, which continued for some time to be much read in the university; by some papers in the Phil. Trans.; by his book On Newton's Laws of Motion, which was published in 1793, and is known by the name of Attwood's Machine, the principle of which merits some notice.

When a constant or uniform force acts upon a mass, it produces equal accelerations equally in all directions, the whole distances described are as the squares of the times; that is, whatever length is described in the first second, four times as much is described in the first two seconds, nine times as much in the first three, and so on. [See Akccl.] Thus the number of revolutions is doubled in taking the first second being called 1, that described during the second is 3, that during the third 5, and so on. Where the weight of a mass in the pressure applied, and the mass of only is moved, that is, where a body falls freely in empty space with a velocity proportional to the acceleration of gravity and the spaces described in successive seconds are 

16\frac{2}{3} \text{ feet, five times } 16\frac{5}{6} \text{ feet, etc.}, and these are distances too great on which to try experiments; and Attwood's method is a means of contriving systems which still move under constant forces of less amount, so that the spaces described during four or five seconds shall not require a very great fall. The principle made use of one which as well known in mechanics, namely, that if a pressure A, acting uniformly upon a mass B, produces a given acceleration during one second, it will only produce half that which would be acting on a mass twice as great. It is evident that only is moved, therefore, the mass times as much velocity in a mass half as great as B. A. Suppose, for instance, weights of six and seven times the weight of a stone were to have the same acceleration, would in 32 seconds, be 32 feet. But before this system can move, the 6 and 7 or 13 pounds must be stirred by one pound, and there will only be the 13th part of 32 feet of velocity produced in one second. Therefore, in the second, the heavy weight will fall only 14\frac{1}{2} \text{ feet: and in 32 seconds } 14\frac{1}{2} \times 32 = \text{ 32 feet.} And the velocity acquired may be reduced in any proportion, by making the weights more nearly equal.

Attwood's machine is a pulley, the points of which, instead of being placed in a block, are sustained on frictionless wheels (which see), to diminish the friction. Two weights
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are hung over this by a string, and the mass moved consists of the two weights, the pulley and the friction wheels. But it is proved in mechanics that the effect, both of having the mass of the wheels to move, and of the friction, is a constant retarding force: for instance, in the preceding illustration, the machine might be so constructed that the effect should be to make the system move as if the larger weight were 64 pounds instead of 7, and the pulley were without density and friction. The velocity can be so far reduced as to render the resistance of the air insensible.

The length described in any time is measured by a vertical scale of feet, placed close to the line of motion of one of the weights. To measure the velocity acquired at any point, the moving pressure (the excess of one weight above the other) must be taken off, in order that there may be no fresh accession of velocity, or that the system may proceed only with the velocity acquired. This is effected by making the larger weight in two parts, one part equal to the smaller weight, and the other of course to the excess or moving pressure. The latter is so formed that it cannot pass through a certain ring, while the former can. By fixing this ring to any required point of the scale of feet, the moving pressure is taken off when the larger weight passes through it.

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ATYA (Zoology), a genus of crustaceous animals, thus characterized by Leach:

Antennae, interior, furnished with two bristles, inserted in the same horizontal line; exterior, inserted below the interior, about the length of the body, furnished at the base with a great scale which is univalent, or one-toothed externally.

Pedipalpi external, the last joint shortest; flagrum elongated.

Feet. The two anterior pairs equal, penultimate joint shortest; last joint divided; tarsus equal, furnished at the apex with long cilia; third pair large, unequal, furnished with a very short nail; two posterior pairs furnished with a moderate-sized nail.

Tail, with the exterior lamella bipartite.

'It forms,' says Leach, 'a peculiar subdivision of the shrimp family, and one species only is known.'

ATYLU (Zoology), a genus of crustaceous animals, thus characterized by Leach:

Antennae composed of four joints, the last of which is formed of several minute articulations: upper ones rather shorter, with the second longer than the third joint; under ones with the second joint rather shorter than the third.

Eyes slightly prominent, inserted on a process between the upper and lower antennae.

Legs fourteen; first and second pair furnished with a small compressed hand, which has a movable thumb; the other pairs having only a simple claw.

Tail, on each side, with a triple series of double styles; upper part on each side armed with a small spine or style.

Body (including the head) composed of twelve joints.

Example—Atylus carinatus (Gommarus carinatus) Fabr.

AU, or AUB, is the termination of the names of many places in Germany. It signifies, in its restricted sense, meadow, but is often applied to the tract of level and fertile land on the side of a river, in which sense it is used in Scotland and the north of England, in the form of haugh, as in North-haugh, &c. It is also applied to the valley of a river, such as in Scotland is termed a cairn, as in the instance of the Wetter-au, or valley of the Wetter, a beautiful and fertile district in Hesse Darmstadt.

AUBAGNE, a small town in France, in the department of Bouches du Rhône. It is not far from the sea-coast, and on the road from Marseilles to Toulon, ten miles from the former place. The country around is pleasant. The trade of the town is chiefly in tiles and wine. Coal is found in
the neighbourhood. The inhabitants amounted, in 1864, to between 5000 and 6000. We have no authority of later date except the Ovide des Voyageurs of M. Reichard, which gives the population at 6000.

Before the Revolution, there was a majority of the order of St. Augustin; and the assembly of the states of Provence was sometimes held in Aups. Various antiquities have been found in the environs. (Dictionnaire Universel de la France.)

AUBAINE, the name of the pergriative by which the sovereigns of France formerly claimed the property of a stranger who died within their kingdom, not having been naturalized. It also extended to the property of a foreigner who had lodged within the kingdom and had not left an heir; as likewise to the succession to any remaining property of a person who had been invested with the privileges of a native subject, but who had quitted, and established himself in a foreign country. (See Merlin. Répertoire de Jurisprudence, tomo. i. p. 523.) It is called, in the French laws, the Droit d'Aubaine. Authors have varied in giving its etymology. Nieul (Thrésor de la Langue Françoise tant ancienne que moderne, fol. Paris, 1606) says it was anciently spelt Hobain, from the verb hobain to remove from a place to another. Cujiusus (Opere, fol. Nesp. 1758, tom. ix., col. 1719) derives the word from au aerne, a foreigner or stranger; and Du Cange (Glossar. v. Aubain) from Aups, the name of the mountain near the Seine, and the town of the native subjects. Ménage (Dict. Encycl., fol. Paris, 1694) says, some have derived the word from the Latin, alhit natus, a person born elsewhere, which seems the best explanation. (See also Walafrudis Sturlus. De Vit. S. Galli; l. ii. c. 47.)

This privilege of receiving the inheritance of a stranger upon their death was very ancient, and is mentioned, though obscurely, in one of the laws of Charlemagne, a.d. 813. (Capitul. Regum Francorum, curante P. de Chiniacus, fol. Paris, 1659.)

The Droit d'Aubaine was originally a seigniorial right in the provinces of France. Brussels, in his Nouv. Études de l'Usage général de Pfifs en France pendant le xii., le xiii., le xiv. siècle, 4to. Paris, 1737, tomo. ii. p. 376, has the express chapter, 'Des Aubaines,' in which he shows that the barons of France, more particularly in the twelfth century, exercised this right upon their lands. He especially instances Raoul, Comte de Vermandois, a.d. 1151.

Subsequently, however, it was annexed to the Crown even. It was, from the 14th century, subject to the exemption from it, by granting letters of naturalization.

Various edicts, declarations, and letters patent relating to the Droit d'Aubaine, between the years 1301 and 1789, are to be found in the Dictionnaire des Ordonnances du Louvre, tom. i., p. 610. In 1670, by a special edict of his own reign, Louis XIV. exempted from the operation of the Droit d'Aubaine those who had served in the army of France; and in 1674, by a similar edict, those who had served in the Flanders. Louis XV., in 1762, granted the same exemption to strangers dwelling in Toulouse; and Francis I., in 1533, to strangers residing in Dauphiné. Charles IX., in 1569, allowed exemption from it to merchant-strangers frequently the fairs at Lyons. Henry IV., in 1609, granted exemption to the subjects of the Republic of Genoa. Louis XIII., in 1632, restored the exemption only of the Duke of Lorraine. (Châlons, Droit de l'Aubaine, p. 1.)

Part of this right was claimed from the Droit d'Aubaine were frequently conventional, and formed clauses in treaties, which stipulated for reciprocal relief to the subjects of the contracting parties; these exemptions, it is probable, continued in force after the peace which the treaty had procured, and some were related to merchandise goods.

In the treaty of commerce between England and France, in 1668, the Jur Abbainés, as it is termed, was to be abolished as related to the English: 'qu'il et postumous alainnus fisco accidic non possint.' (Rynx. Text. tomo. xvi. p. 650.) Letters-patent of Louis XIV., in 1669, confirmed it in the parliament of Grenoble in 1674, excepted the Savoyards; and this exemption was confirmed by the treaty of Utrecht, 1713. The last and largest of the Cantons of Switzerland were excepted by treaty in 1713. The particulars of numerous other conventional treaties are recorded in M. Gauchon's work, in the speech of the Duc de Richelieu, in 1689, to which he was referred; and in the Marquis de Clermont Tonnere to the French Chamber of Peers, printed in the Moniteur for 1819, pp. 96-98.

Louis XV. granted exemptions, first to Denmark and Sweden; then, in the treaty called the 'Family Compact,' to the United Provinces and Hannover; in 1721, to the noblesse of Franche, Suabia, and the Upper and Lower Rhine; in 1769, to the Protestant Cantons of Switzerland; in 1771; and to Holland, in 1773. In Louis XVIth. reign, other treaties of the same kind were made with Saxony, Poland, Portugal, and the United States. The abolition of the Aubaine, as it related to Russia, was a distinct article of another treaty; and, finally, by letters-patent, dated January, 1787, its abolition was pronounced in favour of all the subjects of Great Britain.

The National Assembly, by laws dated August 6, 1790, and April 13, 1791 (confirmed by a constitutional act 3d of September, 1791,) abolished the Droit d'Aubaine entirely. It was nevertheless re-established in 1804. (Moniteur, 1804, tomo. v. p. 735.) In 1818, p. 672, the French Chamber of Peers confirmed the exemptions from the Aubaine as far as they were acknowledged in existing treaties. The final abolition of the Droit d'Aubaine, as already mentioned, was proposed by the Duc de Levis, April 14, 1818, and coming into effect in 1828. Foreigners now hold lands in France by as firm a tenure as native subjects.

The Droit d'Aubaine was occasionally relaxed, by the kindness of Prince, upon minor consideration. In the early part of the 14th century, an exemption was obtained by the University of Paris for its students, as an encouragement to their increasing numbers. Charles V. granted the privilege in 1534 to such Castilian mariners as wished to trade with France. Francis I. entered into a treaty with the merchants who traded to Niamas. The fairs of Champagne were encouraged in the same manner: and exemptions to traders were also granted by Charles VIII. and Louis XI. Francis I. granted the exemption to foreigners who served in the army of France. Henry IV. granted the exemption to those who worked or worked in the tapestry-looms. Louis XIV. extended the exemption to the particular manufacturers who worked at Beauvais and the Gobelins; then to the glass-manufacturers. Louis XV. extended the exemption to the kirchers, whose town he had acquired by purchase from England; and, lastly, to strangers settled at Marseilles, that city having become the entrepôt of products from the Levant.

Ambassadors and persons in their suite were not subject to the Droit d'Aubaine: nor did it affect persons accidentally passing through the country. Still it was no small degree to the French law that this barbarous custom should have so long remained among a people so highly civilized. Beaumarchais, in one of his own juridictions, who wrote as early as the fifteenth century, calls it 'un Droit hayneux.' (Somme Rural, fol. Lyon, 1500, fol. v.)


An extensive treaty on the Droit d'Aubaine has been already quoted in the works of Jean Bacquet, avocat de la Chambre, in 1727, to 1827, 5 vols. Mem. Droit d'Aubaine, at the end of M. Dupuy's Traite touchant les Droits du Roy très Christian, fol. Par. 1855; and the Coutumes du Ralliage de Fuiry en Perthes, par Estienne Durand, fol. Chilans, 1722, p. 234. But the whole curious and comprehensive view of this subject will be found in the Recueil Universel de Recits et de Jurisprudence, par M. Merlin, 4to. Paris, 1827, tom. ii. p. 583, art. Aubaine; tomo. viii. p. 416, art. Heritier. (Moniteur, 1818 and 1819 contain abstracts of the documents while the abolition was passing through the Chambers of Peers. See the latter year, pp. 314, 316, 406.)
The chief passes in the former year have already quoted.

AUBE, a river in France, which rises in the department of Haute Marne, in the range of hills which connects the Côte d'Or with the Voges. The waters of many of the tributaries of this river flow from the same range, as well as those of the Seine itself, the source of which is about 56 miles south-west of that of the Aube. The course of the two streams is for some distance nearly parallel, until the Aube, after flowing about 80 or 85 miles, turns gradually more to the south-west, and united with those of the Seine, near the little town of Romilly.

The whole length of the Aube is about 113 miles; and the distance in a straight line from its source to its junction with the Seine is about 87 miles. It does not receive any tributary of the first magnitude. The Seine falls into it on the right bank, and have a course of about 30 miles each, are the largest. The principal places by which it passes are La Ferté-sur-Aube, Clairvaux (once famed for a wealthy abbey), Bar-sur-Aube and Auvers-sur-Aube; at which last, about 22 miles above its junction with the Seine, it becomes navigable. (Malte Brun: Bru's Map of France.)

AUBE, a department in France, taking its name from the Aube river, by which it is traversed, and which is traversed in a direction nearly N.W. This department is bounded on the N. by that of Marne; on the E. by that of Haute Marne (Upper Marne); on the S. by those of Côte d'Or and Yonne (which last also bounds it on the S.W.); and on the W. by those of Meurthe-et-Moselle, Haute Marne, and Marne. E.S.E. to W.N.W., sixty-eight miles; and the breadth, measured at right angles to the above dimension, is fifty-six miles. The superficial contents are about 2334 English square miles; and the population (in 1826) was 442,000 persons, the number of exalted orinators.

This department, which corresponds to part of the former province of Champagne, has no mountains, nor any considerable elevations. The surface consists of undulating ridges, the Aube traversing it at several courses nearly parallel to each other: then turning more towards the W., they unite their waters near the N.W. extremity of the department. The Seine is navigable from Troyes, the capital of the department; and the Aube from Bar-sur-Aube to Auvers, the usual point of departure of the Rhine, Pindar, mathematicians, and magic, the latter with the resolution of never making use of it. At the breaking out of the third civil war he escaped from his guardian, who kept him close, and joined the Huguenot bands, which, in 1570, lived at free quarters.

When peace returned, love put poetry into his head, and awakened his scribbling propensities, but these again were put to flight by the massacre of St. Bartholomew. Soon afterwards he decided for the side of Navarre, whose future Henry the Fourth. Thus installed as protector, D'Aubigné rendered himself remarkable for his boldness, talent, cordiality, and pertinacity. He abounded in repartees—his hands were full of quarrels; he wrote a tragedy called Coré; and seems to have excited some admiration, but little friendship. As a partisan, however, D'Aubigné was a more favorable follower, and as such Henry of Navarre both prized and used him. When war broke out, D'Aubigné not only accompanied the armies, but shared in the personal adventures of the prince, some perilous, some ludicrous; for Henry was as fond of disguise and gallantry as of feats of arms. The king of Navarre had little to which to reward such service: he was pitifully poor, and D'Aubigné had neither the disinterestedness nor devotion of Sully. Consequently, when in the height of his favor with the prince to push his frankness to insolvency; he vented his discontent in sarcasms, and at least wore out the patience of the best-natured of kings and companions. In his private memoirs, D'Aubigné has eulogized his returns and his refusals to the prince, in his amours. He also mentions, that on his return from a perils and important expedition the monarch rewarded him merely with his picture; and he even goes so far as to say, that Henry was determined to get his hands on the Seine.
had made many bitter enemies by his sarcastic behaviour, and their influence again drove D' Aubigné from court. In order to be avenged, he determined to turn catholic, if possible—a resolve that he ingenuously avows; and he betook himself to the persual of the controversial writers of that party, among whom Bellarmin made most impression on him. By this effort, and studies was, however, to render him a firmer protestant than before. In this, he owns, Whitaker's Preflections had considerable influence. In 1587 we find D'Aubigné again in the service of Henry, and engaged in active controversies. In the following year he was rewarded with the government of Maillezais.

The possession of a fortress was at that time the great guarantee of independence. It instantly raised an officer to power, and gave a rank and grandeur. The acquisition of this great privilege was not likely to render so turbulent a personage as D'Aubigné more obsequious or mild. He was in a little time again at variance with Henry, embracing the party of the Huguenots, and openly professing their interests to court favour. Nevertheless, it was necessary to confide the Cardinal of Bourbon to a trusty guardian, Henry selected D'Aubigné, notwithstanding the exhibition of his counsellors, adding, that D'Aubigné's word was a sufficient guarantee for his faith.

From the period of Henry's desertion of protestantism, D'Aubigné was one of the firmest supports of the Huguenot interests, always representing them in their assembly, and carrying on a correspondence with the court. D'Aubigné asserts that the ruin of the Huguenots and the downfall of their cause were owing to the corruption of their chiefs, who for the most part received bribes or places and were thus induced to relax in opposition, in opposition to their principles. No one escaped this charge. He himself bore this charge. As to D'Aubigné, one thing is certain, that he might have been rich, like his comrades, and that he was almost the only one who remained poor. His estate having been raised for him by his friends against the insidious proposals of the court. On one occasion he conducted a controversy with Cardinal Du Perron, and engaged for the Huguenots that they would submit to what could be proved to have been the practice of the church for the first 400 years of Christ's existence as a form, more in addition, said the cardinal, willing to include the Chalcidenean Council. 'I will,' replied D'Aubigné. When expostulated with for his concessions, he answered, 'Does not the cardinal own by his demand of forty more years, that the traditions of the church were in variance with his propositions?' Numerous controversial tracts proceeded from his pen at this period. But the chief fruit of his residence at Maillezais was the History of his own country, a document presented to France. It has been compared to the work of De Thou, and even preferred to it. De Thou, however, wrote a history, and D'Aubigné a memoir, his work being a lively picture of passing events, facts of war, and intrigues of court, in which the observers of the personages at this period are cheeked by a satiric and lively pen. The Catholes did their utmost, first to prevent D'Aubigné from writing it, then to suppress it when written. The last volume was printed at Maillezais in 1616, and in the following year it was condemned by the Pope, and to his ban. The publication increased the hatred of the queen to D'Aubigné. The ministry had made frequent overtures to purchase the possession of his fortress; and when at last he found it no longer tenable, he sold the property, took the oath of the Huguenot party, and De Robe. Having thus closed his political career, D'Aubigné retired to Gonesse. He arrived there in September, 1626, and was most honourably received. He lived in exile ten years, during which he escaped his studies diligently; making the natural history and the antiquities of England, at the same time, his peculiar delight. Here he formed an acquaintance with Anthony à Wood, to whose collections for the history of the University and its writers he became a contributor (Life of Wood, p. 90; and, in 1628, to the Master of St. John's, Cambridge, then repairing by Dodsley and Duplex. In 1646 he became a member of the Middle Temple, but the death of his father, in 1652, prevented his pursuing the law as a profession. He was now so eminent a man, that he was chosen a member of the house of Commons, and in his Macclesfield he acquainted us that he had also a estate in Kent. In 1656 he became one of the club of commonwealth-men, formed on the principles of Harrington's Oceana, published in 1655. (See the author of Oceana.) says: 'These days and
government and of ordering a commonwealth were the most ingenuous and smart that ever were heard, for the arguments in the Parliament House were but flat to those. This grang,' he was a great deal that it was, and believed he could be carried, by way of tenantmen; which being not used or known in England before, upon this account the room every evening was very full.' The club however was broken up in 1639. In 1660 Mr. Aubrey went into the court; but his returns from the west was

September that year, he narrowly escaped shipwreck near Holyhead. (Mem. at supp. p. vi.) His notes inform us that he afterwards suffered another sort of shipwreck: he says, 'On November 15, 1661, I made my first address in an oratory.' (ibid.) That the volume of 1663, preserved is in the same; but from this remark we gather that in that state he enjoyed no great felicity. In 1663 he became a fellow of the Royal Society. In 1664 he was in France. His estates, between lawsuits and mismanagement, now became emaciated, and about 1666 he seems to have disposed of several: that at Easton was parted with in 1669 and 1670. (Mem. p. xii.) In the space of four years he was reduced not only to straits but to indigence. Yet his spirit remained unbroken. From 1670, he says, 'I thank God, I was allowed' It was a period of great felicity. This felicity in which he calls happy, consisted in following up the bent of his genius, while he owed his subsistence to the kindness of his friends; and in labouring to inform that world which in him, 'nurtured as a flower, and withered in the sun.' In 1673, the Lady Long, of Draycot, in Wiltshire, in whose house he had an apartment, and by whom he was generously supported as long as he lived. Dr. Rawlinson says (Mem. p. xii.) that he was on his return from London to Lady Long's house he was struck with such horror at the sight of the house, that it is presumed he was buried, though neither the time of his death nor his place of burial can yet be discovered. The writer of Aubrey's Life in the *Biographia Britannica* (vol. i. p. 349), conjectures that he died about 1700. Sir William Aubrey, of his Library, preserves a page from the *Biographiæ Britannicæ* preserved; as well as Gough's Brit. Topogr. i. 363; and Manning's Hist. of Suffolk, iii. 685, 686.

AUBURN, a town of Cayuga county, about 17 miles west of Ithaca, in New York. Auburn is favourably situated on the outlet of the Oswego Lake, a fine stream with falls and numerous mill-seats, offering facilities for manufacturing establishments, several of which have been formed here within the last few years. It is now a principal canal which the Oswego and Seneca passes close to the town, and contributes materially to its prosperity. The court-house for the county is situated in Auburn; the population of the town in 1833 was stated to amount to 4099. Auburn contains a theological seminary, which was established by the Presbyterians in 1831; it has four professors, a library of 4500 volumes, and (in 1833) fifty-four students.

This town is principally interesting as containing the first built of the two state prisons of New York, which have been erected upon the principle of the reformist in the reform of the prisoners, and have accordingly excised a considerable degree of attention. The principle adopted in the management of the prison at Auburn, is that of depriving the prisoners of social intercourse, and of permitting them to act as a corps of hired labour. The prison is so directed that the criminals are made not only to support themselves, but also to defray all the necessary outgoings of the prison. The outer wall of the prison incloses a space of ground 500 feet square. The principal building stands at the distance of 100 feet within this wall, and is three-sided, the front being 276 feet, and each of the sides 242 feet long. Besides the keepers' apartments, hospital, chapel, and domestic offices, the building contains 555 cells, capable of holding only one person, each of them being 7 feet long, 3½ wide, and 7 feet high. These cells are perfectly ventilated; they are arranged in five rows, or stories, opening into galleries, and are so managed that no communication can pass between the inmates of neighbouring cells, unknown to the officers of the prison. The space in front of the cells is so perfect a sounding gallery, that a person standing on the ground story can hear even a whisper from the most distant cell at the top.

The system now pursued in this prison is essentially different from that adopted when it was first opened in 1821. It was at that time intended to try the effect of constant solitary confinement in cells, and eighty hardened offenders were accordingly selected from other prisons for the experiment. This plan was abandoned in 1823, about the middle of which time it appeared to be attended with such serious effects on the health of the prisoners, some of whom had become insane, that it was necessarily modified. It might have been feared that the effects of such solitude as having proved thus injurious, the system of the whole would have been rejected, and the prison suffered to degenerate into an ordinary place of confinement, without further attempts at reforming the prisoners. Happily the idea was not abandoned that solitude might be made to exercise a beneficial influence upon the character of criminals, unimpeded by

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It was conceived that this good effect might be attained by leaving the convicts in their solitary cells during the night, and compelling them to work during the day in society; but obliging them at the same time to preserve absolute silence. The infraction of this rule is followed by severe and immediate punishment inflicted by the keepers with a whip made of raw hide, and the punishment follows the offence, so that it is known as 'to be nearly as effective as being nearly a preventive, the application of the whip being sometimes not required for three months together.

All the operations in the prison are conducted with the greatest regularity. The convicts who have previously learnt their trade, are employed upon it; otherwise they are taught some new trade, and the keeper is allowed to select such an employment as appears best suited to their powers. The workshops are attached to the prison, and all of them vary according to the season. When the length of daylight will allow of it, the prisoners work twelve hours in the day; at other times they labour during the continuance of daylight. But when not absolutely at work or at their meals, the convicts are always in their cells, and the discipline of the prison is so strict, that not even a glance of recognition is at any time allowed to pass among the prisoners.

The severity of the system here described is such that it is difficult, in order to justify it, to show that it is productive of considerable benefits. In a report drawn up by commissioners appointed by the legislature of New York to visit this prison, we find the following passage descriptive of some of the advantages realised: 'The separate cells by the side of the prison presents a means of all contamination among the prisoners. By this system every prisoner forms a class by himself, and to all moral and social purposes he is insulated. The novice in crime may work for years by the side of the most expert felon, without making any progress in the sciences of crime; and the entire separation from all criminal associates, the sobriety of feelings consequent upon temperance and labour, and most of all, the sadness of solitude, must frequently make some impression'.

The religious instruction of the convicts is not neglected; there are prayers morning and evening. The only book permitted on the premises is the Bible, a copy of which is placed in every cell, and the chaplain of the prison is the only person with whom the convicts can hold unreserved communication.

The system pursued at this prison appears to have a favourable effect upon the health of the convicts. The mortality of the prison in Philadelphia is stated to be in the proportion of 1 to 16, while, at Auburn, it is in the proportion of 1 to 184. In the penitentiary at Wethersfield, the discipline of which is similar to that of the prison at Auburn, the proportion is 1 to 441, and in the prison at Auburn itself, the proportion is 1 to 16. Of the moral effect of the regulations, we may judge from the fact that, while in the prisons of Pennsylvania, 1 convict out of every 6 has been recommitted, and in the state of Maryland the commitments are as numerous as 1 in 7, the proportion of released criminals in the cells at Auburn is not greater than 1 in 19.

AUBUSSON, a town in France, in the department of Creuse, about twenty-three miles S. E. from Guéret, the capital of the department. It is situated on the River Creuse, and in the midst of a sterile district abounding with granite mountains and deserts, and is surrounded on all sides by well-built. The manufacture of carpets is the great support of Aubusson. Those made in the royal manufactories are equal to the carpets of Paris; and there are many others not inferior to the best of their kind. There is also made here. This is the capital of an arrondissement: it has a theatre, an agricultural society, and a nursery-garden for the department. The population is upwards of 4,900.

The circumference of Aubusson contains 860 square miles, or 540,400 acres, and has a population of 93,596 inhabitants. (Mallet-Brun; Balli; Dict. Univer. de la France.)

AUBUSSON, PIERRE D', was born in 1423 at a noble French family, descended from the old Vescovs of La Marche. He served while yet very young in the imperial army in Hungary against the Turks, and from that time the prevailing idea of his mind seems to have been that of fighting the Mussulmans, who then threatened to overpower Christian Europe. He was afterwards summoned to come to France, and was presented at court by his cousin Jean d'Aubusson, chamberlain of Charles VII., and became a favourite of the Dauphin, afterwards Louis XI., whom he accompanied in his expedition to Switzerland in 1444, and was present at the battle of Grandson on the 28th of February. He proceeded to Rhodes, when he entered the order of St. John of Jerusalem. He obtained a commandery, and was dispatched by the Grand Master with a mission to France, which he accomplished with success; and was an active ally of the Turks, who was then threatened by Mahomet II. He was afterwards made Grand Prior, and was intrusted with the care of the fortifications of Rhodes. In 1476, on the death of the Grand Master Orsini, d'Aubusson was renewed the attack in person. In May he died, a small town of Bithynia, in May, 1481. The Turkish success was decided between his two sons, Bajazet and Zizim; and the latter being worsted in fight, took refuge at Rhodes, where D'Aubusson received him with great honour, and after- wards sent him for safety to Bourganeuf, a commandery in France, where he remained till his death. He died in 1500, and was buried in the church of St. Peter at Rhodes, with the title of the Count of Rhodes. He was a cruel and most successful warrior, and was very rich in gold. He was the father of the famous hero, the grand master of the Knights of Rhodes. His name is perpetuated in the title of the Grand Master of the Order of St. John of Jerusalem. He was a man of great courage, and a most excellent commander. He was succeeded by his son, the grand master of the Order of St. John of Jerusalem.
AUCHERMUTRY, a royal burgh in the county of Fife, in Scotland, incorporated by James IV. of Scotland, and governed by three bailies and fifteen councillors. It has no share in parliamentary representation. The population of the parish amounted in 1831 to 3,223 persons, who are partly engaged in manufacturing brown linen. There are four fairs in the year, which are numerously attended. The cloth is abundant in the parish. The church was rebuilt, in a substantial manner, in 1760. The vestry is in the presbytery of Cupar and Synod of Fife. Auchtermuchty is distant about 9 miles west of Cupar, and 3½ north by west from Falkland.

AUCKLAND, ST. ANDREW, an extensive parochial chapelry in Darlington Ward, in the county of Durham. The name is derived from the Saxon Ac, or Ake (oak), and the word land, and in old writings is spelled Akeland, Auckland, Aclent, Aclat, and Acle. The parish contains twenty-seven subdivisions; parishioners, 291, of which only one calls for particular notice, viz. Bishop's Auckland. Some others may be here mentioned. Bishop is the site of a Roman station—Vinovium, or Binovium. The station is on elevated ground, nearly eighty feet above the level of Wear, which washes the base of the hill on the west. Various Roman antiquities have been discovered here: coins, fragments of pottery, seals, &c. At Thickleoy was born Colonel John Ladburne, who occupies a conspicuous place in the history of Charles I., and he has given the title of Earl to the late Lord Chancellor Eldon.

The parish of St. Andrew Auckland contains 44,470 acres (= 71 square miles), and had, in 1831, a total population of 1,249, and 137 inhabited houses. The town is chiefly noted for its Church, the largest in the county of Durham, and is crossed by a stately stone bridge, called Newton Capp Bridge, of two elliptical arches, according to some authorities (Hutchinson, History of Durham); or of one circular and one pointed arch, according to others (Beauties of England and Wales). The height of the bridge above the river, and the span of the arches (91 feet for one arch, and 101 feet for the other), are considerable for the time of its erection, which was about the year 1390.

The church is on the bank of the river Gaunless, a stream which, running through the parish, joins the Wear near Bishop's Auckland. It is in the form of a cross, and has a tower at the western end. It was collegiate in early times, before the time of Antony Beck, or Beke, bishop of Durham, who is commonly reputed to have been a collegiate in 1320. The college, as appointed by Bishop Beck, consisted of a dean and an unascertained number of prebendaries or canons. This church, on the dissolution which took place in the 1st of Edw. VI. a.d. 1547, was greatly reduced, being reduced to a chapel and several gardens. The site of the bridge, one of the most beautiful in the county, has been the subject of many anecdotes, and some have been attributed to its beauty only, which it continues still to be. It is in the archdeaconry and diocese of Durham, and the bishop is the patron. (Hutchinson's Hist. of the County of Durham; Beauties of England and Wales.)

AUCKLAND, BISHOP'S, a market-town and township in the parochial chapelry of St. Andrew Auckland, 2484 miles N.N.W. from London, and 10 miles S.W. from Durham.

It is situated on an eminence, bounded on the north by the river Wear, and on the east by the little stream, the Gaunless, which falls into the Wear near the town. It is on the old Roman road, Walling-street. The eminence on which it is built is nearly 140 feet above the level of the plain below, and the scenery, from the higher points, may be termed hanging gardens. The town is well built, and there is a spacious square market-place. A grammar-school was founded here by King James I. in the second year of his reign, at the petition of Dame Anne Sackville. The whole of the income from the school was endowed with an income of £10, annually. The school seems to have been further endowed by Bishop Neile; and it appears also that the old chapel was appropriated to its use by Bishop Morton of Durham in 1617, and even in 1627, and the latter from 1632 till the dissolution of the see in the time of the Commonwealth. In the course of the last century the chapel was rebuilt by subscription, and divine service restored. The school is now a grammar-school. There is a school for 80 boys, founded by Mr. Walton; also one on Dr. Bell's system, for 50 boys; and a school of industry for girls. The last two
The town derives its designation of Bishop's Aukland from the residence of the bishops of Durham. It is said to have been chosen as an episcopal residence by Bishop Antony Beck, mentioned in the charter of Charles the First, and contains a building in a very magnificent style; but there are no remains of it left. The present palace, which has lost all the appearance of a castle, and is an irregular pile rather resembling a magnificent abbey, lies at the N. end of the town. The entrance to it from the town through a neat Gothic gateway and screen, extending 310 feet. The palaces-chapel, which was built by Bishop Cosins, is a very fine edifice, with lofty piers and arches of the early English character. It is 84 feet in length and 48 broad. This chapel has been repaired at various times. The windows of the aisles are in the decorated style, and the east window is very fine. The altar-piece is a painting of the resurrection, by Sir Joshua Reynolds. Bishop Cosins lies buried under the floor. A plain stone, with a modest epitaph, probably called Cholmeley, bears his name. There are some poems, written by the same hand, to the memory of Bishop Trevor, who died in 1771. The palace contains some good paintings; among them are full-length portraits, by Ribera (otherwise Spagnoletto), of Jacob and the seven pieces of silver, and a picture of Cardinal Cammillo by Titian. There is also a portrait of Tycho Brahe, the Danish astronomer. The park (through which the Galloway flows) is very extensive, including 800 acres, and the part near the house is laid out so as to command a great variety of prospects. A stone bridge, built in 1626, crosses the river.

The episcopal palace was granted, on the overthrow of Charles I., and his party, and the suppression of the see, to Sir Arthur Haxley, who determined to make it his residence. He pulled down almost all the buildings which he found, and out of the materials of the former house. On the restoration of Charles II. the bishops came again into possession; but Bishop Cosins declined to occupy the house built by Sir Arthur, on the ground that he had used in building it the stone of the ancient chapel. He accordingly pulled it down, and restoring the stone to its original destination, built the present chapel.

(From Hutchinson's Hist. of the County of Durham; Beauties of England and Wales, &c.)

The auctioneers are employed for the sale of various descriptions of property. This practice originated with the Romans, who gave it the descriptive name of auction, an increase, because the property was sold to him who would offer most for it. In more modern times, a different method of carrying on the trade was introduced. The auctioneer's practice is equally, although not so correctly, applied. This latter method, which is called a Dutch auction, thus indicating the local origin of the practice, consists in the public offer of property at a price beyond its value, and then gradually lowering or diminishing the price until some one among the company consents to become the purchaser.

The first-described mode of sale by auction was established by the Romans in the disposal of captives, and was conducted cum hostilis, that is under a spear, which was thrust into the ground upon the occasion. This expression was continued, and sales were declared to be conducted cum hostilis long after the spear was dispensed with. In the same manner is the present day practice limited to sale by the candle, or 'by the inch of candle,' with as little regard to actual practice. The origin of this expression arose from the employment of candles as the means of marking the time. It was declared that no one lot of goods should continue to be offered to the fair description of the proposals, for a longer time than would suffice for the burning of one inch of candle; as soon as that rude kind of measure had waned to that extent, the then highest bidder was declared to have disposed of that lot.

It is a common rule in law that no contract is binding without the consent of both parties. In sales by auction, the consent of the buyer is given by means of his bidding, while the amount of the seller is signified by the fall of a hammer; and until this declaration has been made, the intending purchaser is not entitled to draw his bidding. It is a common practice for the owner of property offered for sale by auction to reserve to himself the privilege of bidding, and, as it is termed, buying in his goods, if the price offered by others should not suit his convenience. This practice was held by the civil law to be illegal, and even partake of the nature of a fraud; and so lately as the time of Lord Mansfield, private biddings at auctions were so considered. In the present day, however, they are not only allowed by the law, but the legislature has so far recognized the propriety of the practice, that the property has been bought in either by the proprietor or by his declared agent, who is in general the auctioneer, no auction duty is chargeable.

It has been said, that the buyer of goods at an auction cannot be held to the performance of his contract, in cases where he was the only bidder at the sale, and where public notice was not given of the intention of the owner of the goods to bid, even though his agent was present. He is held to be bound to a contract with the seller to act as a protection to the public against the practice commonly resorted to by disreputable auctioneers, of employing persons to make mock biddings with the view of raising the price by their apparent competition: the persons thus employed are generally called 'mark men' or 'mark boys,' and more especially in London, many persons make a trade of holding auctions of inferior and ill-made goods; persons called 'barkers' are generally placed by them at the door inviting strangers to enter, and pullers are always employed. These persons bid more than the标的 goods are worth, and thus entice the unwary. Many ineffectual attempts have been made to put a stop to these practices.

The auctioneer is considered the agent of both parties, vendors and purchasers. In the language of the judges in a previous case, 'a bidder, by his agent, has a right to a contract.' He confers an authority on the auctioneer to execute the contract on his behalf. He can therefore bind the parties by his signature according to the requisition of the Statute of Frauds, which renders it necessary in contracts of sale of bonds or similar description to be made in writing or delivered in goods above the value of 10l., that some note or memorandum should be signed by the parties or their agents lawfully authorized.

And such signature is now held sufficient even in an action for a breach of contract against the vendor in his own name. It has been doubted therefore whether a bidder may not retract (in cases within the statute) at any time before the actual written entry. The auctioneer also stands in the situation of a stakeholder of the deposed party, and is in the nature of damages for a breach of the original contract, in the same way as the part of the goods being sold. This peculiarity of his position it results that he is now (as settled by a case referred to in the notes) did not hold himself responsible to the vendor for any advantage which he may make from the money in his hands. In this respect his situation differs from that of a mere agent, and also from that of one of the contracting parties (the vendor), from whom interest is recoverable in the nature of damages for a breach of the original contract on the part of the vendor, by whose failure to make a good title the vendor has for a time lost the use of his money. — (Mr. Justice James Parks.) An auctioneer (like any other agent and trustee concerned in the sale of property) is bound to use the utmost diligence in the due discovery and description of the property, and to make a fair and open auction, without disclosing the name of his principal, an action which will be against himself for damages on the breach of contract.

The conditions of sale constitute the terms of the bargain, and purchasers are bound to take notice of them. The late Lord Ellenborough said, that 'a little more fairness on the part of auctioneers in framing particular would avoid many inconveniences. There is always either a suppression of the fair description of the property, or something stated which does not belong to it; and in favour of justice and considering how little knowledge the parties have of the thing sold, much more particularity and fairness might be expected.' The conditions usually contain a provision that in the event of error or mistake, the approbation of the purchaser shall be necessary, that an allowance shall be made for it in the purchase-money. But this clause is held only to guard against...
unconditional errors, and not to compel a purchaser to complete the contract if he has been grossly misled.

The duties levied upon goods sold by public auction are not charged according to any uniform scale. Sheep's wool of British growth sold for the benefit of the growers, or of persons who have purchased directly from the growers, is subject to an auction-duty of twopenny for every twenty shillings of the purchase-money. Freehold, copyhold, or leasehold estates, whether in land or buildings; shares in the joint stock of corporations or short-lived companies; reverse annuities, not in any of the public funds; and ships and vessels, are liable to pay the same amount for every twenty shillings: house furniture, pictures, books, and the like kinds of personal property, are made to pay one shilling for every twenty shillings of the purchase-money. Many exceptions have been made by the legislature when imposing these duties. Piece goods, wove or fabrics in this kingdom, which shall be sold entire in the piece or quantity, as taken from the loom, and is a law of the price of twenty pounds and upwards, are exempted from the payment of duty.

The produce of the whale and seal fisheries enjoys an equal exemption, as well as elephants' teeth, palm-oil, drugs, and other articles for the use of dyers; also manumaged and released slaves, and their descendants, and persons imported by way of merchandise from any British colony in America, the same being the growth, produce, or manufacture of such colony, and sold by the original importer within three months from the time of importation. In all these cases, duty is at any duty chargeable on goods sold by order of the courts of Chancery or Exchequer; or on any sale made by the East India or Hudson's Bay Company; or by order of the Commissioners of Customs, Excise, or other government boards of commissioners. In like manner, goods made by the sheriff for the benefit of creditors in execution of judgments, and bankrupts' effects sold by assignees, are not liable to the payment of auction-duty; which last exception of exemptions are made upon the principle of not aggravating the loss of judgment or bankruptcy, and for the same reason, goods damaged by fire, or wrecked or stranded, which are sold for the benefit of insurers, are not charged with duty. Wood, es太平, the produce of mines or quarries, cattle, corn, stock or produce of land, may be sold by auction free of duty while they continue on the lands producing the same.

In case the sale of an estate be declared void, through defect of title, the duty that has been paid may be claimed again within three months after the time when the defect has been discovered.

The value of goods subject to duty which have been sold by auction, and the net revenue derived from the same in each of the last ten years, are as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount of goods sold</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1824</td>
<td>£ 9,305,611</td>
<td>£ 30,694</td>
</tr>
<tr>
<td>1825</td>
<td>£ 15,143,721</td>
<td>358,833</td>
</tr>
<tr>
<td>1826</td>
<td>£ 17,835,955</td>
<td>247,653</td>
</tr>
<tr>
<td>1827</td>
<td>£ 11,155,276</td>
<td>274,879</td>
</tr>
<tr>
<td>1828</td>
<td>£ 57,571,244</td>
<td>775,536</td>
</tr>
<tr>
<td>1829</td>
<td>£ 5,728,976</td>
<td>211,545</td>
</tr>
<tr>
<td>1830</td>
<td>£ 3,595,159</td>
<td>234,354</td>
</tr>
<tr>
<td>1831</td>
<td>£ 3,596,491</td>
<td>218,044</td>
</tr>
<tr>
<td>1832</td>
<td>£ 6,157,733</td>
<td>227,136</td>
</tr>
<tr>
<td>1833</td>
<td>£ 6,637,396</td>
<td>240,643</td>
</tr>
</tbody>
</table>

AUCTEUR, a person whose profession or business it is to conduct sales by auction. It is his duty, previously to the commencement of every sale, to state the conditions under which the goods are offered; to receive and note down the respective biddings, and to declare the termination of the sale: for this purpose, he commonly makes use of a hammer, upon the falling of which the biddings are echoed.

The law holds that an auctioneer is authorized by the highest bidder or purchaser to sign for him the contract of sale, and that his writing down in his book the name of such purchaser, shall be sufficient to bind the latter to the purchase, provided no objection be made by him previous to his signing the contract. The law also authorizes the auctioneer to act as the agent of persons wishing to purchase, who may instruct him to make biddings for them. The auctioneer then being the agent of both parties, his signature of the buyer's name in the catalogue to which the conditions of sale are annexed, opposite to the lot purchased, together with the price bid, has been considered a sufficient note or memorandum in writing of the bargain within the Statutes of Frauds; but where the conditions of sale are not annexed to the catalogue, nor expressly referred to by it, the signature of the buyer's name in the catalogue is not a compliance with the statutes.

Every person acting as an auctioneer in the United Kingdom is required to take out a license, which must be renewed on the 5th of July in every year, and for this license the charge of five pounds is annually made. He must also register his name in a list of committee of officers of excise, within a certain period, a true and particular account of every sale held by him, and to pay the amount of auction-duty accruing thereon. For this purpose twenty-eight days are allowed, within the limits of the chief office of excise in London, and six weeks beyond those limits.

An auctioneer intending to hold a sale within the limits of the chief office of excise in London must give two days' notice thereof at the said office, and if the sale is to be held beyond those limits, three days' notice must be given to the collector of excise, at the nearest excise-office. This notice must be in writing, and signed by the auctioneer, and must specify the particular day when such sale is to be held. It must also state the name of the person by whom the sale is to be managed; whether printed catalogue, likewise attested by his signature, or by that of his authorized clerk, enumerating every lot and articles intended to be offered at such auction. He is liable for the law of the amount of the auction-duty, but may recover the same from the excise-officer. It is provided that the buyer shall pay the amount of duty in addition to the same bid by him.

If an auctioneer declines or refuses at the time of sale to purchase the articles, he at once offers to the buyers all matters in regard to which the responsibility would otherwise lie with the owner of the property sold. He is also responsible to his employer for any loss or damage that may be sustained through his negligence or want of attention. And if by his gross negligence the sale becomes nugatory, he can recover no remuneration for his services from his employer. If he receives money as a deposit on the sale of an estate, and knowing that there is a defect in the title, declines depositing the amount of the deposit with the amount to the purchaser; and if he pay over the produce of a sale to his employer after receiving notice that the goods of right belong to another, the real owner may recover the value from the auctioneer as well as from his employer.

The number of auctioneers' licenses issued in England during each of the last ten years was as follows: 1824, 2539; 1825, 2941; 1826, 2910; 1827, 2861; 1828, 3119; 1829, 2978; 1830, 3843; 1831, 2974; 1832, 3002; 1833, 3000.

AUCUBA, the Japanese name of a dicotyledon plant, now commonly cultivated in the gardens of this country as a hardy evergreen shrub, remarkable for its shining pale-green leaves mottled with yellow. It is described by Thunberg as growing to the height of a man or higher, but common in various places in Japan, both wild and cultivated. Its fruit, which it bears in March, is a red berry, about the size of that of a laurel, and containing a single stone, with a bitter nauseous kernel. In this country we have only the female state of this plant, the natural order of which is still unsettled. Several opinions upon that subject have been advanced by botanists, but Professor Derandelle seems most correct in referring it to the dogwood tribe (Cornuera), to which its strong smell of elder seems to point out its affinity.

It is said that only one species exists, namely, the aucuba japone of our gardens; but it seems not improbable, from Thunberg's figure, that the plant represented at his tab. 18. page 103, 13th ed., is an hybrids between two species. We possess only a variegated variety of the plant; in its natural state it is said to have brownish-green leaves without any blotches.

AUD, a river in the south of France, which rises in the Pyrenees, and falls into the Mediterranean Sea. Its source is in the department of Pyrenees Orientales (Eastern Pyrenees), a few miles N.W. of the town of Mont Louis. Its course is winding, though the general direction of it is from S. to N., past the towns of Banyuls, Ales, and Limoux, and through Aud. From Cassargues, this stream, though still winding, is for the most part towards the E., until it
empties itself into the sea near the Etang de Vendeure, to the E. of Narbonne, running nearly parallel with the great canal of Languedoc. Its whole course is from 130 to 140 miles.

The waters of the Aude are very turbid; and the deposits at its mouth have caused a considerable variation in the line of land and sea, which is followed into the sea; but the canal Robine d'Aude, or Robine de Narbonne, has taken the place of one of these. This passes between the Etangs of Sigean and Grui, and then through the Etang de Faugues, to the E. The banks of the river are on this side, except quite in the lower part of its course. It has no tributary of any consequence; the Orb, the principal, falls into it on the right bank about twenty miles from its mouth, is forty to fifty feet wide, and about 200 miles long.

The mouth of the Aude is shared by two estuaries, one closed by Mont Espinouse and the Black Mountains, which are part of the chain of the Cevennes, and by the eastern extremity of the Pyrenees. (Marte-Brune; Encyclopédie Méthodique, &c.)

The Aude was known to the Romans by the name of Atax. They gave this name to the channel which passes by Narbonne to the sea. That part of this channel which passes through the Etang de Sigean was deepened, and faced, and paved with stone. It is called the Aude du Bas in France, taking its name from the river Aude, which flows through it. It is bounded on the N. by the departments of Herault and Tart, on the N.W. by that of Haute Garonne (Upper Garonne), on the W. by the departments of Ariege, and on the W.S.W. by the Pyrenees Orientales. The east side is washed by the Mediterranean Sea. Its greatest length is in a direction nearly E. and W., and is about seventeen miles; and its greatest breadth is about fifty-seven miles. The superficial content is in the surface of the sea, 143,000,000,000; and the water of the sea, 142,000,000,000, giving about 109 inhabitants to every square mile.

This department consists of the basin of the Aude, and the slopes of the mountains by which it is bounded. The N. and S. were divided by the Aude, which forms the principal affluent of the river, and it serves as the boundary between the departments of Herault and Tart, and between the departments of Ariege and Haute Garonne. The course of the Aude is in a direction about S. by E. till it almost joins the Aude near Carcassonne, and then runs parallel to the course of the river for many miles, until, again turning a little to the north of S., the canal quits this department for that of Herault, and the river pursues its course towards the sea.

The mountainous districts are dry and unfruitful, yet the agricultural produce of the department is more than sufficient for the wants of the inhabitants. The vine is cultivated to a considerable extent; the figo is excellent; and an herd of domestic buffalo, which are exposed to the sun all day, is dried, and sent to other departments, or to Italy, to be used in the manufacture of glass. Honey, known by the designation of Narbonne honey, forms an article of considerable importance. Wheat and oats are abundant. The department is not great; though silver, copper, lead, and iron are procured, as well as marble in great variety, gypsum, and several coal; and there are salt-works near the Etang (of Foul) of Sigean, one of the lagoons which line the French part of the Mediterranean coast. At Bize is a cavern, in which human bones are said to have been found along with those of the stag, camel, reebuck, antelope, and bear.

The inhabitants carry on considerable manufactures, which are promoted by the advantage of inland navigation through the canal of Languedoc. Woollen cloth may be regarded as the staple manufacture. It is carried on at Carcassonne and Castelnau-d'Asp, by which towns are on the canal, and a furious trade is carried on. The flax and hemp, and glass, are among the productions of the industry of this department. The iron-works also are of some importance.

The little town of St. Colomb sur I' Heres (with a population of about 1000) is noted for its tannery and torgo.

Carcassonne is the capital of the department (population 18,000), Castelnau-d'Asp, and Narbonne (population each 10,000), and Limoux (population 7000). These are all chief places of residuum.

St. Colomb sur I' Heres is 16 miles from the place, 10 of the inhabitants, has 15 inhabitants.

The Carcassonne, Castelnau-d'Asp, Limoux, and Narbonne.

This department, which coincides with part of the province of Languedoc, is under the jurisdiction of the Court of Aragon (Assey Court) of Montpellier. It sends four deputies to the Chamber. It forms the diocese of Carcassonne, the bishop of which is a suffragan of the Archbishop of Toulouse and Narbonne. (Marte-Brune; Balbi; Dictionnaire Universel de la France.)

AUDUBONT, JEAN BAPTISTE, was born in 1759, at Rochefort, in France. His father was a dealer in provisions for the supply of the shipping. Young Audubont, at the age of seven, went to Paris to study the arts of design and painting. He soon excelled as a miniature-painter, and supported himself honourably by his labours in this way. Fortunately, in 1783, M. Gigot d'Orey, receiver-general of taxes, who was distinguished by his taste for natural history, employed him in the works on the classification of the birds of France, and gave him the fruit of his researches. This led to an extension of his labours in this direction, and he became the most munificent encouragement and assistance, having had an opportunity of judging of the talents of Audubont, employing him to paint the most rare objects in his magnificent collection, and afterwards sent him to England, Poland, whence he brought back a great many drawings, which were used in Olivier's Histoire des Insectes. These occupations gave a bias to Audubont in favour of natural history, which soon amounted to an ardent passion. No longer content to paint at the request of his employers, he published his most important works. The first of these was Histoire Naturelle des Singes, des Mammifères, and des Gépáchiniques, one vol. large folio, with sixty-two plates, the figures coloured, Paris, 1803. The appearance of this work caused a great sensation in the botanic world. Audubont's loves for the characters of painter, engraver, and author. Having carefully investigated the different modes of engraving, and the trials which had previously been made to colour the engravings of objects of natural history, he improved upon them, and made so much use of oil instead of water colours. He also succeeded in printing with gold, the colours of which he varied in such a manner as to imitate the most brilliant hues of the originals. In his Histoire des Colibris, des Oiseaux-Mouches, et des Oiseaux-Mouches, 1 vol. large folio, Paris, 1815, the expression and position of the birds are so perfect as to make them appear animated; and the descriptions, of which he is likewise the writer, are worthy of such a work. Two hundred copies only were printed in folio, in which the title was printed in gold; and one hundred and one hundred copies in large quarto; and only fifteen copies in folio, of which the whole text is printed in gold.

Seemingly were these works commenced before Audubont began to plan others—the history of Birds, of the Mammi-

The publishers, M. Desray, who was in possession of his materials and the processes which he had discovered, employed, and employed, these two works in a perfect manner as those which had been finished by the author himself. The text was edited by M. Vanriet, a naturalist, and friend of Audubont. These two works are united under the common title of Oeuvres D'or et de raffine metaliques, 2 vols. in large folio and large quarto, Paris, 1812. Upon the same plan, and by the adoption of the same processes, M. Vieillot, edited the Oeuvres de l'Amérique Septentrionale. The Birds of Africa (Les Oiseaux d'Afrique) de Le Vaillant are indebted for their excellence to Audubont, who, having undertaken the printing of the plates, added this part. Other branches of natural history, and especially entomology, were equally benefited by the discoveries of Audubont, as may be seen in the splendid works Le Jardin de Malmaison, by Ventenat, and the Ligue des Redoutés.
AUDIANS. [See HERETICS.]

AUDITOR, an officer or agent of the king, or of a private person, who examines periodically the accounts of under-officers, tenants, stewards, or bailiffs, and reports the state of their accounts to his principal.

Auditors of the impost.—Ancient officers of the exchequer who were responsible for the examination and approval of accounts. They were public officers originally established by the 25 Geo. III. c. 59, in place of the various offices of auditor of the impost (Lord Speaker's Office) to ensure that those charged with the task were adequately compensated for their duties.

The King is authorized by the statute of 46 Geo. III. c. 141 to appoint ten of these auditors, who hold their offices during good behavior with salaries of £1500. In 1805, the salaries were increased to £3000 per annum for the auditors and £1500 per annum for the other commissioners.

They are incapacitated from sitting in parliament, and are sworn to execute the duties of their office faithfully and impartially. There is a provision in the statute, that no vacancy which may arise by death or otherwise in the number of commissioners after the first appointment shall be filled up without the express authority of parliament, until the number is reduced to five, in which case the King may appoint five new auditors in addition to those who may have been appointed by the act of 1805, to keep their numbers always to six.

By the 46 Geo. III. c. 141, sec. 8, all public accountants are to transmit to the commissioners within three months after 31st December, or within three months of such day as the lords of the treasury shall order (see 2 & 3 Will. IV. c. 121), all sums received and paid to them by the public service, within the preceding year, together with proper vouchers for such receipts and payments, and a schedule of the names of all persons to whom money is due, and who are entitled to payment, by an officer in the audit office.

The commissioners may call on all public accountants, whenever they think fit, to account to them for the receipt, expenditure, or issue of all monies or stores entrusted to them, and on failure they are to certify the defaulters' names to the remembrancer of the exchequer, and the attorney-general of England or Ireland, and lord-advocate of Scotland, in order that proceedings may be taken to compel them to account, unless, on the defaulters' representations, the lords of the treasury think it proper to stay the proceedings.

By the 46 Geo. III. c. 121, it is enacted that at the four-quarter days, the fifth day of January, fifth day of April, fifth day of July, and the tenth day of October, general impress certificates are to be transmitted by the exchequer officers to each and every quarter, and vouchers for such certificates and the accounts of all monies and materials issued at the receipt of the exchequer within the preceding quarter, and these certificates are transmitted to the commissioners of audit within thirty days after each quarter day, and by the 10th section of the 46 Geo. III. c. 141, the paymaster of the forces, the treasurers of the navy and ordnance, and all other public officers, who issue to any persons money for public services by way of impress or on account, are required within three months after the 31st December in every year (or at shorter periods if ordered by the lords of the treasury, see 1 & 2 Geo. IV. c. 121, sec. 6.) to transmit to the commissioners of audit a certificate of such monies, with the names of the persons to whom paid, and the commissioners are forthwith to take them into commission.

Various regulations have been made respecting the mode of conducting the business of the commissioners of audit, by which the antient and inconvenient system of keeping the public accounts has been superceded.

The whole of the arrangements in the Audit Office are now subjected to the control of the lords of the treasury, who are authorized to make such orders and regulations for conducting the business of the office as they may think expedient, and it is enacted that the accounts of the duties of the commissioners and other officers. By the 2 Will. IV. c. 24, the above commissioners are authorized to audit the accounts of receipt and expenditure of the colonial revenues; and the 2 and 3 Will. IV. c. 95, transfers the accounts of the commissioners of audit in Ireland to the commissioners for auditing the public accounts of Great Britain.

AUDRAN, GERARD. This eminent engraver was born at Lyons, A.D. 1640. He learned the principles of design and drawing from his father, an artist. At an early age he went to Paris, where his talents soon obtained notice, and procured him eventually the patronage of Le Brun, the king's painter, who employed him to engrave the Battle of Constantine, and the Triumph of that emperor. He went abroad at an early age, and lived sixty years. His reputation perhaps rests chiefly on the celebrated series of plates after Le Brun's Battles of Alexander, respecting which the painter himself confessed that his expectations had been surpassed. It is indeed impossible to contemplate, without the highest admiration, the style of this engraving, which, notwithstanding the very great length of his burin throughout those immense and intricate compositions, is so admirably composed and executed, as to entirely free from manner, that, on looking at his prints, we lose sight of the engraver, and are reminded only of the master whom he is transcribing. To feel the truth of this remark, it is necessary to consider the circumstances of the above-mentioned Battles of Alexander, after Le Brun; The Preservation of the young Pyrrhus, after Nicholas Poussin; The Plague, after Mignard; and the Martyrdom of St. Laurence, after Le Sueur; in which works the respective style of each painter is rendered with the most distinct yet delicate discrimination. Gerard Audran owed his extraordinary excellence not only to his consummate skill in design, but in a great measure to his frequent habit of painting from nature; and several subjects which he engraved from his own designs attest the extent and versatility of his powers.

The works of Gerard Audran may be classified under four heads, exclusive of his portraits:

1. His slight prints or etchings, to which little or nothing was done, which among these may be enumerated—The Deluge, from Le Sage; The Passage through the Red Sea, from the same; the Combat of Joshua against the Amalekites, from the same; the Empire of Flora, from Poussin; the Preservation of Pyrrhus, from the same; a Ceiling, from Le Brun, representing the Seasons, in five plates, and dedicated to Louis XIV.

2. Those which are more finished, but in a rough, bold manner. For example: Paul and Barnabas at Lystra, from the tapestries in the Vatican; Raffaello; Coriolanus appealed by his Family, from Poussin; Time supporting Truth, from the same; the ceiling of the Chapel de Saulx, representing the accomplishment of the old law by the new, engraved in 1681, from Le Brun, on six large plates representing the six days of creation; The Agony in the Garden; The Death of St. Francis, from Annibale Caracci.

3. Those in his most finished manner, as the Battles of Alexander, from Le Brun; The Battle of the Granicus; The Battle of Arbela; Forus brought to Alexander. To this set are added two more large prints, as follows:—Alexander entering the Tent of Darius, and the Triumphal Entry of Alexander into Babylon. In both these works he has the name of Goyton, printer, marked on them. The Plague, from Peter Mignard; the Baptism of the Pharisées, from N. Poussin; the Martyrdom of St. Laurence, from Eustace Le Sueur; the Martyrdom of Agrippina, from Domenico.

4. Such as he did with the graver only; these are few, and perhaps unequal in merit to the preceding. We need only mention Aéses saving his father Anchises from the
plunder of Troy, after Dominichino; a small folio frontispiece to the epistles of the popes and cardinals, published at Rome, from Cyrò Ferri.

A few only of his works are here enumerated. This catalogue is from Strutt’s Book. Dict. of Gravers.

AURÉSTADT, a village of about twelve hundred inhabitants, in the canton of Zürich, about twelve miles to the north-east of Zürich, which owes its celebrity to the defeat of the main body of the Prussian army by a division of the French army under Marshal Desaix, on the 14th of Oct. 1796. By the brilliancy of the victory, General Desaix received the title of Duke of Auréstadt from Napoleon. On the same day Napoleon defeated Prince Hohenlohe at Jena; the two battles usually have gone under the name of the ‘Battle of Jena,’ as part of the same field, though they were not contiguous.

AUGER, ATHANASE, was born at Paris in 1734. Having entered the clerical profession, and taken orders, he applied himself indefatigably to the study of the Greek and Roman writers, especially the orators. He was appointed professor of rhetoric in the college of Rouen. The bishop of Lescaz had become acquainted with him, made him his grand vicar, and used to call him jestingly his vicar in patria. Athenaeum, alluding to his Greek erudition, for the public press. A translation was a publication of a Demosthenes and Aeschinés. 5 vols. 8vo. 1777. This was the first French translation of all the works of those two great orators, and Auger enriched it with treatises on the juridical system and the laws of the Athenians to one another. The republics, which now settled at Paris, where he lived in modest seclusion upon a small income, entirely devoted to his favourite studies. After the publication of his translation he was elected a member of the Academy of France, and his next works were a translation of Isocrates, 3 vols. 8vo. 1784, and one of Lykidas, 8vo., same year. He applied with equal zeal to the study of the great Roman orator, and translated the whole of his Orations, of which he had been a collector. He wrote at the same time a work on the constitution of Rome: De la Constitution de Rome sous les Rois, and Le Temps de la République, which was published after his death as an introduction to the whole of his life of Art. of 1798. 4. The essay on the Roman constitution fills the first volume, and as an abridgment it may even now be consulted with profit, although it has been in some measure superseded by Nieburh’s more elaborate and more profound work on the history of Rome. Auger’s object was to develop the system and the working of the Roman political institutions in their three essential parts—the legislative, the executive, and the judiciary. The second volume is a continuation of the first, being engrossed by a life of Cicero, chiefly relating to his political character, and containing the constitution of the state and the principal institutions of the Roman republic at the epoch preceding its fall. The study of Cicero and of Roman history occupied, in great measure, the last thirty years of Auger’s life. He worked in the mean time, selections from the works of the two Greek fathers, Chrysostom and Basil, Homilies, Discourses, and Letters chrestes de St. Jean Chrystostom, 4 vols. 8vo. 1785; and Homilies and Letters chrestes de St. Basile le Grand, 8vo. 1788.

The first symptoms of the French revolution found Auger deeply engaged in his meditations on the Greek and Roman republics. He felt naturally favourable to the general principles of constitutional liberty which were then professed in France, and wrote several pamphlets in favour of them. One of them seems to have attracted his attention at the time, was that of a new system of public education. In his Project d’Édu- cation Publique, Préliminaire aux Réflexions sur l’Assem- bleé Nationale, 8vo. 1789, he traced the outlines of two distinct plans: one for learned or classical education; another for the education of those who, not being able or not wishing to study Latin and Greek, might yet be desirous of being instructed in the literature of their own country, and of the customs and manners of their native language. In a subsequent little work, L’Agriculture du Coyen Français, 8vo. 1791, he reverted to the subject of education, observing, that his former plan being intended for the middle classes, there still remained a much more numerous class, consisting of the number of the towns-people and the rural population, for whom he had sketched out the present scheme. * It may have been deemed advantageous, he observes, * under the former system of government, to keep this vast multitude in ignorance, but such a state of ignorance becomes dangerous now. This class, with the knowledge of its strength, ought also to acquire the knowledge of how to use that strength without abusing it—it ought to be told its duties as well as its rights—it ought to be taught how to be instructed, and orderly, and moral. In his catechism be clearly defines the rights and the duties of individuals under a system of well-understood liberty; and he draws the line between liberty and the licence of vice—between that pure equality of rights, which is inherent in the nature of men. That line, however, was soon after obliterated, and the consequences were fatal to France and to Europe; but the good Auger was spared to see the catastrophe: he died in 1793. He was born in 1722, and died in 1793, in the year of the Convention, in which he had been a delegate.

AUGEREAU, PIERRÉ FRANCOIS CHARLES, Duke of Castiglione and Marshal of France, was born of noble parentage in the province of Burgundy. He entered the French army in 1767, and was in 1793, the last year of his life, the subject of the following notice, which was written by Adolphe de Seze, who afterwards figured as a member of the Convention, and who had studied Greek under Auger, composed his funeral eulogy. Auger was a man of great learning, in the simplicity of a scholar. His last treatise on Greek tragedy, was published a few days after his death.

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was unable to effect the passage over the bridge, but still he was rewarded by a decree of the Directory, granting to him, in commemoration of his bravery, the standard that he had borne on the occasion. [See ASCOLI.]

In the following year, 1797, the attention and interest of the French army were withdrawn from the foreign enemy, and the Directory were more concerned with the troubles at home. The Directory was managed by the Royalists, as well as in a great measure by the friends of constitutional government, who now began to rally to the cause of the Directory in the name of the republic, under the semblance of the Directory. But this party, amongst other injurious acts, committed the great mistake of making the armies hostile to it. Bonaparte was accused for his conduct towards Venice, and was treated as an accomplice of the Directory. This caused the Directory to detach him from his regiment and by sending addresses from his soldiery in favour of republicanism. In the camp of the army of Italy Augereau was so loud in his exclamations of royalty, and so extreme in his revolutionary sentiments, that Bonaparte, at once took his part for him, and to provide the Directory with a useful agent, sent him to Paris. Here he continued his tone of vaunting and violence amidst the feasts and honours with which he was welcomed, and he was soon named military commissary, which was a second triumph. This nomination was enough to warn the opposition that the Directory meditated violent measures, and they accordingly endeavoured to obtain the dismissal of Augereau. The coup d'état, or revolution of Fructidor, was planned by Barère and Suchet, and supported by the generals, and the legislative body was driven from its post; the Tuileries, where the assembly sat was invested; the members hostile to the Directory were seized; and a most infamous act of cruelty and injustice was consummated with the utmost skill and success.

Augereau was rewarded for this important service by the Directory, as the command in the army on the German frontier. Here he surrounded himself with the most furious Jacobins, and discoursed of war. However, his principal object was to deprive him of the command, and remove him to Perpignan. Augereau found his way to Paris, and was there on Bonaparte's return from Egypt. It is much to Augereau's honour that, discontented as he was with the Directory, and restless as he had been, he went to Augereau, the latter could not count upon his assistance in the revolution of the 18th Brumaire. Bertrandt and Augereau were the only generals whom Bonaparte dared not summon to his sale. Augereau was at St. Cloud; for he had been elected deputy to the Cents, and anxiously hoped that the representative body and the republic would triumph over the military usurper. While the rest of the struggle was doubtful, he approached Bonaparte and said, 'Well, you see, one is in the minority.' Augereau rejoined Bonaparte, 'remember Arcole; my fortune seemed more desperate there; yet I retrieved it then, and shall not now.' He was right; the usurpation was completed, and Bonaparte the victor. 

Bonaparte distrusted his old comrade too much to appoint him again to the army of Italy. During the campaign of Marengo, Augereau commanded a division, for the most part Dutch, on the Lower Rhine, where he had hard fighting and little glory. After the treaty of Lavedan, he retired to a property which he had been enabled to purchase near Melun. He was intrusted with no important employment until 1803, when, with the new dignity of Marshal, he took the field against the German army which possessed the Voralberg. In 1805 he was engaged in the battle of Jena, and commanded the division which subsequendy took possession of Berlin. The terrible winter campaign which ensued undermined the health, but added to the glory, of Augereau. In the advance through Poland, he was frequently engaged, and commanded the left of the French at Eylau. His division, which was ordered to attack the centre of the Russians, advanced for that purpose, when a thick shower of snow covered both armies, and Augereau modestly exclaimed, 'as a result of Napoleon's plan, but his fault was remedied by the quickness of his commander, as well as by his own courage; though sickened by sudden illness and fever, Augereau had the energy to command. His division remained to the last in the action, though he was wounded. After the battle of Eylau, he was obliged to retire for the recovery of his health. In the years 1809 and 1810, he commanded in Catalonia, where he showed but little mercy to the Spaniards. Considering Augereau as a better general, Napoleon, instead of taking him to Russia in 1812, left him to form a corps of reserve at Berlin. But here the Cossacks found him in 1813, and it was with some difficulty that he was rescued by Napoleon's journey. Augereau took part in the campaign of Saxony, and made a valiant stand near Leipzig, defending a wood against superior forces. In 1814 he was intrusted with the defense of France against the Austrians, when he ocuemed Lyons, and organized its defenses. At first he repulsed them in several combats; but at length, aware of their prodigious superiority of force, as well as of the diminishing resources of Napoleon, he made a capitulation and retired to his own lines. Napoleon considered his conduct on this occasion as little short of treachery; and it is certain that, of all the Marshals, Augereau was the least attached to a master who was so much his junior, and who, by his usurpation, had blasted the ambition of the republican general. Augereau made his peace with the Bourbons, was confirmed in his dignities, and created a peer. On the return of Napoleon in 1815, Augereau kept aloof. Louis XVIII. in 1814, Augereau who considered the painful task was imposed upon him of being one of the council to try Marshal Ney. His vote of condemnation on his brother soldier is the greatest blot upon Augereau's memory in the eyes of the French. He did not long survive, being brought to the grave by the grief of his family and the legislative body was driven from its post; the Tuileries, where the assembly sat was invested; the members hostile to the Directory were seized; and a most infamous act of cruelty and injustice was consummated with the utmost skill and success.

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The women of Augereau make gray woolen cloaks, called Augers, which are sold in Fezana. The town of Augers is ill built and dirty. The inhabitants speak, besides Arabic, another language which resembles that of Siwash, of which Hornemann gives a short vocabulary.

AUGITE. The minerals to which this name has been applied present us with some of the most interesting and at the same time most difficult investigations that can fall under the notice of the mineralogist and chemist, and have frequently occupied the attention of the most eminent men in those branches. For this reason we have devoted a separate article to them. They are one of the principal ingredients in many porphyry and trap rocks, such as the syenite, diorite, and schoen-roads, green-stone, &s., they form a class of bodies of the highest importance to the geologist. A diatomaceous earths, which are favourable to the formation of one or other of the species, to the exclusion of the rest, would be likely to afford a safe guide in many geological inquiries into the character and formation of rocks of igneous origin. For such reasons we have arranged them before our readers in so satisfactory a manner as possible; but in doing so we encounter considerable difficulty, owing to the uncertain state of our own knowledge on many imp-
The augite genus, is readily recognised by the form of its crystal given in Fig. 1, and by the direction of its four cleavage planes, the most perfect corresponding with the faces {M}, those in the direction of r and s being less easily obtained; and by its pale-green, or greyish-white colour, and vitreous lustre. Its hardness is 5·5, and its specific gravity is 3·299. Alone before the blowpipe it melts into a colourless, semi-transparent glass; with borax, very readily into a transparent glass. Its chemical constitution is expressed by the formula given above, as will be seen by the following analysis of a variety from Tannah by Bondorf:—

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<tr>
<td>Silica</td>
<td>54·83</td>
<td>Protoxide of iron</td>
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<tr>
<td>Lime</td>
<td>94·76</td>
<td>Alumina</td>
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<tr>
<td>Magnesia</td>
<td>18·55</td>
<td>Loss by heating</td>
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Several varieties, little differing from the above, are called backlite and fascite, names indicative of their locality.

2. Hedenbergite, whose constitution may be stated by the formula CaSiO₃ + Mg₂SiO₄, as may be seen by the analysis of G. Rose of a variety from Lunaberg, who obtained of

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<tr>
<td>Silica</td>
<td>49·01</td>
<td></td>
</tr>
<tr>
<td>Lime</td>
<td>20·57</td>
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<tr>
<td>Protoxide of iron</td>
<td>26·08</td>
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<tr>
<td>Protoxide of manganese with magnesia</td>
<td>2·98</td>
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It is of a dark-green colour, sometimes nearly black.

3. Sahlite, those varieties in which the magnesia is only in part replaced by protoxide of iron, and whose composition G. Rose expresses by

\[ \text{Ca SiO}_3 + \text{Mg FeSiO}_3 \]

Berselius gives the formula,

\[ (\text{SiO}_3 + \text{Fe Si}) + 2 (\text{Ca SiO}_3 + \text{Mg SiO}_4) \]

as expressing the constitution of a variety from Björnmyr, in Sweden, which would therefore be one equivalent of hedenbergite united with two of diopside. He calls it malalakite. (See Anwendung der Mohrschen, by Berselius.)

4. Daillage: the constitution of this variety is expressed, on the authority of

Berselius, by \[ \text{Fe SiO}_3 + 3 \text{Mg SiO}_4 \]

of G. Rose, by \[ \text{Mg SiO}_3 + \text{Ca FeSiO}_3 \]

of F. Kobell, by \[ \text{Ca SiO}_3 + \text{Mg Mn} \]

The difference in the analysis by Köhler of two specimens, the first from Tuscany, the second from Utensinhal in the Tyrol, would perhaps rather indicate the latter:—

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<tr>
<td>Silica</td>
<td>53·20</td>
<td></td>
</tr>
<tr>
<td>Lime</td>
<td>21·08</td>
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<tr>
<td>Magnesia</td>
<td>14·91</td>
<td></td>
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<tr>
<td>Protoxide of iron</td>
<td>3·47</td>
<td></td>
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<tr>
<td>Protoxide of manganese</td>
<td>0·38</td>
<td></td>
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<tr>
<td>Alumina</td>
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<tr>
<td>Water</td>
<td>1·77</td>
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<td></td>
<td>100·48</td>
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| This variety is characterised by its mother-of-pearl lustre, and by its possessing the most perfect cleavage in the direction of the diagonal of the prism. It is seldom found in perfect crystals. Its most general colour is a bronze yellow.

5. Hypersthene, which is very similar in its general appearance and characters to daillage, has the following constitution: \[ \text{Fe SiO}_4 + \text{Mg SiO}_4 \]. Both of the last-mentioned varieties may be distinguished from the former, as well as from each other, by means of the blowpipe, and by attending to the following characters as stated by Berselius:—

Daillage alone in a matrix of mica, becomes of a lighter colour, and gives off a little water.

On charcoal it is with difficulty melted on the edges into a grey worm.

With borax it is diffusely fused into a clear glass, somewhat coloured by the protoxide of iron.
was therefore either hornblende in the form of augite, or augite with the cleavage planes of hornblende. At the village of Mulałakiewski, near Misak, he discovered a still more interesting habit, embedded in a greenstone similar to that last described. They were abundant, and possessed the form of augite: the smaller crystals had cleavage planes parallel to the sides of the prism of hornblende, and were similar in their appearance and colour to those obtained by Cavendish. These also, however, possessed a kernel of a greenish-green colour, and of a lighter tint and greater lustre than the exterior. This kernel differed from the darker exterior portion of the crystal, the latter giving the cleavage of hornblende, while the former presented those of augite, with hues sufficiently bright and perfect to admit of measurement by the reflecting goniometer.

The observations of Mitscherlich and Berthier on the formation of augite are of an uncertain and uninteresting character, and serve only to draw attention to a few interesting in themselves, and throw so much light on the nature of augite in general, and on those crystals we have just described, for which Rose proposes the name of uranie, that we cannot omit to notice them in this place. Mitscherlich has observed that at many foundaries in France, the yellow ores possessed the form, structure, and chemical composition of certain minerals found in nature. From this source he has obtained upwards of forty varieties; and among these, specimens possessing the form and structure of augite were frequently obtained, whereas they were not discovered. Guided by these observations, a mixture of silice, lime, and magnesia in the proportion indicated by the formula \( \text{Ca SiO}_4 + \text{Mg SiO}_4 \) was submitted to fusion in the porcelain ovens of Sèvres, near Paris. On examination, the mass was found to have two almost parallel cleavage planes corresponding with those of augite, and a hollow formed in the centre from the contraction in cooling contained crystals of the form of fig. 1. By these processes they failed in obtaining crystals either of the form or structure of hornblende; but in another instance of placing to refer to the results obtained by those chemists, we must refer our reader to the original papers in the Ann. de Chimie et de Physique, tom. 24, and the Ann. des Mines, tom. 9, particularly those who may be interested in metallographic processes.

Professor G. Rose, in accounting for this production of augite to the exclusion of hornblende, was led to consider that it was not the absence of the fluorine, or any error in the proportion of the elements, which prevented the production of hornblende, but that it was the effect of the rapid cooling. This he fully confirmed by the following experiments: a light-green variety of hornblende, the straithlein of the Germans, from Zillerthal in the Tyrol, was powdered, and to a portion of the powder was added the specified proportion of the elements. It was completely fused, and in cooling had formed fibrous tufts of dark crystals, which, however, admitted of measurement by Wollaston's goniometer, when the angles were found to correspond with those of augite. A specimen of augite, with its localities, was also prepared, cooled into a dark mass, but regained its former structure.

We may therefore consider it to be demonstrated that augite is formed whenever the process of cooling, and consequently of crystallization, is rapid; and hornblende, when it is conducted more slowly. Many circumstances occurred in this view: the uranites of Rose appear to be its natural consequence; for, as by the laws of caloric we know that the quantity of heat lost during equal portions of time varies with the temperature, the exterior portions of the crystal must have a lower temperature, and consequently a gradual loss of heat than the interior, while at the same time the temperature would be maintained by the specific heat given out by the parts first consolidated. The general localities of augite and hornblende, which they are so closely associated, affords another argument in favour of this supposition; for hornblende is usually met with in syenite, trachyte, and lava, accompanied by quartz, feldspar, albite, &c., minerals which decidedly require a slow process of cooling; for those of augite occurs in basalt and lava with olivine, which Mitscherlich has recognized in the scorie of various foundaries, and which is therefore formed by a process of rapid cooling. We are thus able to account for H. von Buch’s remark in his observatory, that all the basalts and lavas which contain feldspar have hornblende, but no augite.

Induced by these circumstances, Rose, in a tabular view...
of the minerals which he has added to his Elements of Crystallography, published at Berlin in 1833, has united into one genus the following species.

1. Diopsidite
   Ca Si₂ + Mg Si₂

2. Schalite
   Ca Si₂ + Mg Si

3. Hedenbergite
   Ca Si₂ + Fe Si

4. Basaltite augite
   Ca, Mg, Fe, Al, Si

5. Rothbaumstein
   Mn Si

6. Aenite
   3 Na Si₂ + 2 Fe Si

7. Diallage
   Mg Si₂ + Ca Fe

8. Bronzite
   Mg Si

9. Hypersthene
   Mg Si₂ + Fe Si

10. Uralsite

11. Tremolite
   Ca Si₂ + 3 Mg Si

12. Antopyllite
   Fe Si + 2 Mg Si

13. Strahlstein
   Ca, Mg, Fe, Al, Si

14. Basaltite hornblende Ca, Mg, Fe, Al, Si

AUGMENTATION, in music of the olden time, was, as Musard Merly tells us, "an increasing of the value of the notes above their common and essential value," and indicated by a sign. It is unnecessary to dilate on this term, which, as well as many others of the same date, has long been known only to musical antiquaries.

Augsburg, the capital of the Bavarian circle of the Upper Danube, stands on a gentle eminence in an agreeable and fertile country, near the influx of the Wertach into the Lech, and between both these rivers, in 48° 21' N. lat., and 11° 54' E. long. It lies 1400 feet above the level of the sea, and in the 45th degree of the agricultural order; it is on the main roads which traverse it, and has long formed one of the central points for the internal commerce of Germany. It is divided into three quarters, the upper, the middle, and the lower town, independently of the suburb of St. James, which lies outside of the walls; it is intersected by four canals, which supply the mills and manufactories of the town with water. The exterior boundary of the glacia has been converted into delightful walks, along which the circuit of the city may be made in a couple of hours; and within the glacia runs a wall flanked with towers, bulwarks, and ditches, which are crossed by four principal and six minor entrances. The streets, with few exceptions, are narrow and irregularly built, and the pavement unsuitable to the feet, being composed of small flints though its disposition in a mosaic form is not unpleasant to the eye. The general appearance of the town is however much improved by the numerous buildings which have sprung up within the last century, and adorned, though it can scarcely be said to be embellished, by the manner in which the generality of the houses are painted with stripes, either green, red, or yellow, always separated by white. Every street and lane is provided with reservoirs for the use of the inhabitants, and a separate work for the purpose of forcing the water into them.

The finest edifice in Augsburg is the town hall, which was built by Holz, in the beginning of the seventeenth century. It stands on a "Centre Hall," perhaps the most splendid apartment in Germany, its length being 110, its breadth 36, and its height 32 feet; it was used for the election of the two kings of the Romans, and was decorated at a great expense with painted ceilings and frescoes, by Kraeger and Rottenhammer, the former of whom was elevated by the gratitude of his fellow-citizens to the Burgraves of their chairs. This hall, with the four royal apartments adjoining, has since been appropriated to the purpose of a museum. Among the thousand paintings which it contains, (the whole arranged in chronological order,) it is particularly rich in specimens of the German school: Kraeger's "Samson and Dalilah;" Albert Durer's "Maximilian the First;" Kraeger's "Last Judgment;" and Rottenhammer's "Bier Gods of Augsburg." A bust of the head of the street, but few will feel disposed to praise even such as these as Guido's "Sleeping Infant;"

Titian's "Venus holding a Mirror to Cupid," or Parmigianino's "Madonna." The collection of models from the antique, which occupy another apartment in the town-hall, is less in character with its external device, "Publico consiliis, publione salutis," than a very considerable collection of ancient and modern description, containing the archives of the town. Adjoining this fine structure is the "Perach Tower," which is ascended by a staircase of 500 steps, and the "Arsenal," the façade of which is embellished with a noble group, representing the "Virtue," by Michael the Archangel, the work of Reuel Von Ran, the Bavarian sculptor. The episcopal palace (the town being still the seat of a bishop's see) is on the Frunhof near the cathedral; it was under this roof that Luther held his celebrated disputations with Cajetan in 1519. St. Ulrich, in year 1518; and under the same roof, on the memorable 26th June, 1530, this great reformer presented the corner-stone of the Lutheran faith, commonly called the "Confession of Augsburg," to the emperor Charles the Fifth. Augsburg was the place from which that sovereign, urged by the unadmonished bearing of the protestants of Germany, proclaimed the "Interim," or religious armistice, which recognised them as a distinct and independent communion. Augsburg also assisted in the taking of the fortress of the Bavarian sword of religious strife, and left the protestants in the full enjoyment of their dearly-purchased immunities. The venerable walls of this palace were, in 1817, converted partly into offices for the government of the province, and partly into apartments for the accommodation of the visiting traders. Among other conspicuous buildings are the "Halle," a handsome commercial mart and storehouse, which has a machine for weighing loaded wagons and merchandise in bulk, and is now partially used for judicial proceedings; the "Vogt's palace," in which is rich with old manuscripts; the "Franziskaner academy of arts;" the school of the arts; and the "Cathedral," which was built in the fifteenth century on the site of the ancient Basilica, erected in the tenth. This edifice is 350 feet in length, 140 in breadth, and 150 in height; and the transept is 120 feet in length, and 60 feet in breadth, the side aisles are fitted up with four and twenty chapels, independently of several pictorial embellishments of a central portico, and two stone portals which divide the main aisle from the choir, are about six feet above the floor, and are decorated with figures and emblems, dating from the year 1484. A visit to St. Ulrich's church, which is 310 feet in length and 94 in width, will be amply repaid by the respect from its lofty steeples (which is 148 feet higher than the monument of the vaulted hall in London) of the altar of Augsburg. The altar of the church stands on the side of that fine specimen of sculpture called the "Altar of the Crucifixion," and other striking objects. Of the numerous monasteries, convents, and ecclesiastical establishments of Augsburg, fifteen churches only remain, five of which are appropriated to the use of the church, and the remainder, as endowments there are few spots of the same extent rich; and we believe that three-quarters of a million sterling are rather below than above the aggregate amount, by which which is the property of these foundations, stands the institution called the "Fuggers," established in the year 1519 by two brothers of the Fugger family, who were the founders of more than one cardinals of the present day; it is a town of itself, situated in the suburb of St. James, has its own church, consists of three streets and as many lanes, has three gates, and contains 107 belfries, is out to indenture natives of the town, at a rent of two shillings per annum. A philanthropist of our own times, Lawrence Schaepetel, a banker of Augsburg, has more than fulfilled his "good word,", by establishing a school of industry for 100 poor children and orphans of this his native town, in 1813; and then, twelve months afterwards, by erecting an asylum within the walls of the old Dominican monastery for the reception and maintenance of indigent women, forty-five operatives, and seventy-six children, who are educated on the Lancaster system. To these institutions may be added an admirably conducted orphan asylum, and a book for teaching the educated classes in making provision for the instruction of their humble fellow citizens, every religious community in the town has schools of its own, the twenty seven week day schools are attended by nearly 2000 children, the Sunday schools about 20000, and the three female schools of industry by four hundred. Between five and six thousand youths of superior
The merchants of Augsburg: their cabinets and libraries were adorned with their gardens and mansions: the first tulip known in the west of Europe was brought to Augsburg from Constantinople, and planted by Heerwat, in 1557. Such, in short, was the splendid appearance of this city at the close of the sixteenth century. The Bishops of Augsburg, once the hereditary lords of the city, had disappeared under the domination of the Frankish sovereigns, and in 788 was almost razed to the ground during the war which raged between Charlemagne and Tassilo of Bavaria. Upon the dissolution of the Church property, Augsburg fell under the sway of the dukes of Swabia; but by commerce and manufactures, it gradually shook off all external authority, purchased its independence of its episcopal sovereigns, was recognized as a free state by the German emperors, and retained its rank as a free imperial city for upwards of five hundred years—namely, from 1276 to 1606. From about the twelfth until the sixteenth century, it was a leading member of the famous Swabian Confederacy, which included Ratizien, Nuremberg, Constance, and other commercial cities of the empire. In the fifteenth century it was the chief medium of intercourse between the north and south of Europe and the Levant, and supplied the markets of northern Germany, Russia, Poland, and other countries, with wondrous and industria; and is renowned its merchant cities were the rivals of the Spaniards and Portuguese, at the close of the fifteenth century, opened new channels to commercial enterprise. It was at this period of its highest prosperity that the single most important trading establishment in four centuries, started in the sixteenth century, the case of Frankfurt on the Main inflicted a blow on the prosperity of the town from which it has never recovered. Augsburg indeed ceased to be a place of importance in the circulation of exchange in Europe, though it continued to be a chief money-market of central Germany. A law was made in Augsburg (the date we are not acquainted with), that an Augsburg merchant might, at any time between the acceptance and the maturity of a bill drawn on him from any other merchant of Augsburg, in the absence of the ultimate acceptance, sign the bill. Whether this law now exists we are not quite sure, nor can we undertake to say how much of the decline of the commerce of Augsburg is due to it. Under the settlement of Germany, in 1609, Augsburg was recognized as one of the six Hanse towns, which were declared independent of the German empire; but three years afterwards it was merged into the dominions of Bavaria, under the treaty of Preßburg; and in March, 1606, it was surrendered accordingly in his imperial majesty's hands, the French general René, acting under the orders of Napoleon Bonaparte.

Augsburg is the birthplace of Holbein, Holl, and other eminent artists. The gardens and places of public resort of the town, which are much admired, are traversed by 220 bridges and crossings. Augsburg produces about eighty tons of beet-sugar per annum; and manufactures mathematical and musical instruments, paper-hangings, printing-stones, and carpets; and a variety of articles of pure luxury. Its population at the present day amounts to about 35,000, of whom rather more than one-third are protestants; but it was much greater in former times, for the yearly average of births, which are at present under 9000, was upwards of 2200 in the beginning of the sixteenth century; even in the seventeenth they were above 1000; and in the middle of the eighteenth, it increased again to nearly 1300; from which number they have since gradually declined to their present average. We may add, that at the close of the sixteenth century the number of its inhabitants is stated to have been 60,000.
and Wolfang, Prince of Anhalt; besides those of the five towns of Nuremberg, and other cities. The Confession was immediately afterwards printed, and, being translated into various languages, was spread over Europe. It has ever since continued to be the rule of the Lutheran Church in matters of faith. It consists of twenty-eight articles, approved by Luther and another thirty-nine proposed by other Reformers. Zoinge and the other Swiss and French reformers did not subscribe to the Confession of Augsburg, as they differed from it on several points, particularly about the Lord's Supper. The style of the Confession is clear and fluent, and though the title by Luther appears in the first seventeen articles of Targus, which he had presented to the Elector of Saxony the year before. Melanchthon, while drawing up the Confession, had frequent conferences with Luther, who was then staying at Coligny, not far from Augsburg. The Papal theologians, headed by Faber, wrote a confession of the Augsburg Confession, which was likewise read before the Diet in August of the same year. Melancthon answered them in his Apology for the Augsburg Confession, which was published in 1531, and which constitutes one of the books of authority of the Lutherans which were published, including the Confession, at Dresden, in 1536. Ernest Solomon Cyprian has written a good history of the Augsburg Confession, and Webber a Commentary on it. (See Kirchengeschichte; and Hesmeir's Ecclesiastical History, and Notes, by Dr. Murdock.)

AUGSBURG GAZETTE. [See Allgemeine Zeitung]

AUGST, a village in the canton of Basel, in Switzerland, built on part of the ground occupied by the ancient Augusta Rauracorum, a Roman colony under the empire. The remains still existing are not very considerable; they have not been newly discovered by the celebrated Itinerarist. Medals of Roman emperors have been found in abundance in the ground. Augst is situated on the left or southern bank of the Rhine, six miles S.E. of Basel.

AUGUR. The earliest inhabitants of Italy, like all rude nations, imagined that they saw in every unusual occurrence a manifestation of the will of heaven. The power of interpreting the signs thus furnished by the gods was thought to depend upon a peculiar talent conferred upon the favoured mortal from his birth, but a certain discipline was necessary to enable him to interpret the delusions of fate, and guide the actions of the body of men. The diviners were, deep seated in the minds of the people was turned to account in the political constitution of Rome, by the establishment of a college of augurs, whose duty it was on all occasions, whether relating to the public welfare or to private affairs, to ascertain the will of the gods, and report the pleasure or displeasure of the gods. Romulus himself was said to have been skilled in the arts of divination from his earliest youth, and at the foundation of the city the claim of the rival brothers were decided by augury. The story of Tanaquil, of Servius Tullius, and still more the contest between the elder Tarquin and Attus Navius, afford additional evidence of the peculiar nature of this Roman superstition.

The institution of the college of augurs may be referred to the very earliest period of Roman history; for the assertion of Livy (i. 18, and iv. 4), that there were no augurs in the reign of Romulus is not merely opposed to the general tenor of the history of Rome, but directly contradicted by Cato (see p. 63). The college of augurs is again differently reported. Cicero, himself an augur, says that Romulus associated three others with himself, and that Numa added two. (Id. 14) Livy reports that in the opinion of the augurs of the time the number of the college was fixed at the number of the tribes, and that consequently there must have been at the beginning either three or six; so that each of the three tribes should have either one or two augurs. On the other hand, we have interpolated in the ancient Rome that, prior to the Ogulian law, there were but four members of the college. In these different accounts Niebuhr has pointed out strong reasons for giving the preference to the last. 'The notion of there having been three or six augurs of the same number as the number of the tribes, and if all the tribes had stood on an equal footing, the argument would have had much weight. But the same writer has fully established the fact that the first two tribes possessed higher privileges than the third, and this in a more marked manner in the offices of a religious character, so that the number four, two for each of the privileged tribes, seems to point to a similar distinction in the highly-important powers of the augurate. On the other hand, it being clear that Cicerus in his fourth book number six, his mode of accounting for that number is wholly at variance with the reasons of the augurate as reported by Livy. Again, if, as Cicero implies, Romulus was the first augur, and if Romulus was the first augur, then there must have succeeded likewise to the augurate office, a supposition in no respect confirmed by history, and scarcely compatible with what is reported of Tarquin's dispute with Attus Navius. Moreover, if such a power had passed through the hands of forty, it is not likely that the course was pursued at the change of the government from the royal to the consular form. At that revolution the political powers of the king devolved upon the consuls, or priests as they were at first called, and of a religious character upon the priest, called rex sacrificialis; but there is no trace of evidence to show that the authority of the latter ever included the powers of the augurate. Under this view of the subject, Niebuhr is of opinion that originally there was but one augur, R. Naevius, who was made augur in 442 B.C. (Livy, x. 23), and who held the office for two years. He afterwards was re-elected for life, and his successor was called Numa Pompilius. The second and third, the latter of these two, the augurate was transmitted to C. Numa Pompilius, and then to Numa. In this state had its two augurs; that at a later period, when the Titiienses were admitted to a share of these privileges, two others were added. This is confirmed by the statement of Cicerus that Numa added two to the college, for the name of the augurate was made to have two diviners, one in the second tribe. Livy, in his wish to reconcile the different accounts, has been driven to the supposition that when the Ogulian law was brought forward, there may have been five vacancies by death; but it is not probable that the patricians would allow themselves to be elected by a college through such an accident, especially as even after the law was brought forward it was not too late for the remaining augurs to fill up the supposed vacancies—for in each generation of three years the office was allowed to be brought forward by Q. and Q. Cocceius, and Quinctilius, and Numa augmented the number of the college. The law, on the other hand, was complete without the sanction of the augurs: so that the college possessed a virtual veto upon the admission of all members into it. (Dionys. ii. 32.) This power was not unlikely to lead to a gradual usurpation of the elective right; and thus, as early as the year B.C. 458, we find, in the practice of the college to fill up vacancies by co-optation as it was called, that is, by the votes of the existing augurs. (Livy, iii. 32.) This mode of election continued to the third consulship of Marius, B.C. 103, when the tribunes Ca. Flamininus and Ambroseus introduced a law, that in case of vacancy in any of the sacred colleges, fourteen out of the thirty-five tribes chosen by lot should, by a majority of the votes of the said seventeen tribes, nominate a successor, or if no such were chosen, the college should be dismissed. (Cic. juris. lett.)

The return of Sulla to power revived the election to the college; but in the consulship of Caecina (B.C. 63) T. Attus Laebuc, with the support of Caesar, procured the reversal of Sull's law. (Dionys. iv. 55.) At first the college of augurs consisted of six members. In the year 37 B.C., one of the offices of the chief pontiff, and therefore, most probably, in that of the other priests. (Dionys. v. 53.) We have already mentioned that the emperor had the privilege of appointing augurs at his own discretion.

The reverence which was paid to the supposed seances of the augurs would be tedious to enumerate; but that which especially characterized the augurate office was the pretended power of communicating to the consuls the will of the gods in important matters. The augurate was a seat of elevated spot, on which they were seated, and their heads veiled and their feet turned towards some
ticular quarter of the heaven, varying perhaps according to the occasion; for the accounts differ so much that, while Livy says it was the east, we have the authority of Varro for the south, and Frontin for the west. When the augur, with a golden rod or staff, free from knots, called a lictor, marked off a certain portion of the heavens and of the earth, within which his observations were to be made, and again divided this portion into two parts—the right and left—and the augurs given the augur, called a templum, and the steadfast observation of the augur directed upon it may probably account for the meaning of the Latin word con-templa-ri, to contemplate, which has been adopted into our own language. The gods then signed their consent by a reverential bowing of their heads to the left, and the augury was complete. For some purposes the whole circumference of the heavens, together with the corresponding parts of the earth, were divided, according to the order of the zodiac, under these and others parallel to these. (Liv. i. 18. Dionys. ii. 70, and the appendix to the translation of Niebuhr, vol. ii.) So prominent a place did the feathery creation hold as the interpreters of the divine will, that and, the Latin for bird, is the chief element in the term augur, as it is also in the nearly equivalent word auspex (anispec). In the latter, the second syllable is deduced from spei, look, so that the word signifies bird-observer. The second element of the word augur does not need an explanation; except to notice, that in the Latin language we have called the terms nearly equivalent, and if Plutarch's authority had been sufficient (Rom. c. 72), we might have dropped the qualifying adverb. But a Roman antiquary would have pointed out many other classes of persons, important in this respect, these are, that the leading magistrates of Rome possessed the auspices (Cic. de Leg. iii. 3) by virtue of their office, while the term augurium never refers to any other than an augur. The name augur does not appear to have been in early times a technical word, and indeed was but rarely employed; but the derivatives from it were frequently used, and applied with considerable latitude to the augurs as well as to the magistrates. The objects of the auspices and augurium were both under the supreme direction of Jupiter, and of a similar nature. Moreover, all legal disputes about the auspices of the magistrates seem to have been referred to the augurs. Under all these circumstances we shall not attempt to draw a very nice line between them.

There were, as we have already stated, besides the movements of birds, a variety of other occurrences in the physical world which, as expressive of the will of heaven, came under the cognizance of the augurs. We shall not attempt to give the whole list of the more important, but confine ourselves to those which seem to have been of political importance; the election of a king, a consul, a dictator, a praetor, a censors, a curule aedile, the commencement of a war, in fact, all that is done by the people; all was left to the augurs to determine. It is the view to-day of those who hold that the augurs were in reality the interpreters of the will of the gods, that it is absurd to consider that they were able to determine by anything they saw the course of human events; that it is the duty of a godlike authority, as, for instance, the king, to discharge the duties of the augurs. The Romans were a people of a very religious character; that, if there was any disturbance of the peace, it was the duty of the king to take such the direction of a thing which he believed in; and the public money might perhaps be traced in the conduct of the emperor. Hence the emperors of Rome have been accused of having been in the pay of the augurs, and that the result of their election, which were celebrated in the annals of Roman antiquity. (Cic. de Fam. vii. 16; Varro, R. R. iii. 6; Plin. H. N. x. 23.) In the latter years of the republic many of the duties of the augurs were performed in the most lax manner. At the time of the inauguration of a magistracy, it was customary, in observing his own time, the ceremony is a mere shadow of what it was. The candidate takes his seat, rises, repeats a set prayer in the open air, an augur then declares he hears the voice of Jupiter, order is restored on the front, and the candidate forthwith enters upon his magistracy.

AUGUST. The month of August was originally called Sextilis, being the sixth month in the Alban or Latin calendar; and this name, as is stated, it retained in the calendars of Romulus, Numa Pompius, and Julius Caesar. Since Numa's reform, however, it has held only the eighth place in the series of months. In the Alban calendar, Sextilis consisted of twenty-eight days; in that of Romulus, twenty-nine; in that of Numa, twenty-nine; in that of Julius Cesar restored it to thirty; and Augustus, the name from whom it derived its new name of Augustus, extended the number of days to thirty-one, which has continued ever since. It was originally proposed that September should bear the name of Augustus, from the emperor having been born in that month; but he preferred Sextilis, not only as it stood next to July, which had been recently named after his predecessor Julius, but for the same reasons which influenced the decree of the Senate detailed by Macrobius, in his Saturnalia (edit. Bipont. i. 261), viz., that since it was in this month that the Emperor Cæsar Augustus had entered upon his first consularship—had celebrated three triumphs in the city—had received the allegiance of the soldiers who had been sent to him to protect the empire against the danger of a civil war—it appeared that it was, and had been, proitious to the empire; and the Senate therefore ordained that Sextilis should henceforward bear the name of Augustus. Gessendi; (Kalend. Romanus, apud Grrev. viii., col. 164) says that Commodus wished to have had the month Sextilis called by his own name.

The Flemings and Germans have adopted the word August for Harvest; Oogst maand is the harvest-month. (Tryon, Historical Geography of Flanders, p. 167.) The word August is the name of a month in the calendar of(Float. viii. 217.) So the German August-wagen, a harvest-wagon (see Wachter, Glossar, German.); and the Dutch Oogen, to reap or gather corn from the field (Sewell's Dictionary of English and Dutch Words, p. 56), which was formerly used in the Low Countries to express the act of gathering in harvest; and both French and Spaniards have phrases for making harvest, faire l'automne, and hazer eu Augusto.

Our Saxon ancestors named it August Pæwb monâbb, the wood-month, as abounding in nutritious and useless herbs. (Saxon Menolog., and Lyre's Saxon Diet. in voce.)

Lammas Day, the first of the month, is also called the Gule of August (see Brand's Popular Antiq., i. 275), probably from the Gothic Hooic or Huc, indicating that the 'fertility of the field, because of the abundant harvests, was the reason the festival was instituted on this day, called by our Anglo-Saxon ancestors Hæbb-mætne, i.e. loaf mass, was the feast of thanksgiving for the first fruits of the corn.

(Compare Bracie Lexicon Antiq. Grec. et Român., v. Augustus; the different Treatises printed in Graviius's Collection; and Brady's Clausis Calendaria, i. 76.)

AUGUSTA. This title was first given to his wife Livia after the death of Augustus according to the will of the emperor. (Tacitus, Ann. viii. 53, where Claudius on Agrippina (A.D. 51), and by Nero on his wife Poppaea as well as her daughter (A.D. 64).) Eventually it became a common title, of the mother, wife, sister, or daughter of an emperor.

AUGUSTA. This name was also frequently adopted by towns, sometimes in place of, sometimes in addition to the previous name; also many new colonies received it. Thus we find Augusta in the country of the Salassi, now Aosta; Augusta Taurinorum, now Turin; Augusta Rauracorum, now Augst near Basle; Augusta Vindelicorum,
AUGUSTINAUGUSTIN, ST., Bishop of Hippo, also called Aus· tius Augustinus, one of the fathers of the church, was born, as he himself informs us (Epist. 227), at Tagaste, a town in the province of Numidia, about 76 years in North America; and American Almanac for 1834.)

AUGUSTA HISTORIA, the name given to a series of Roman historians, or rather biographers, who wrote the lives of the Emperors, and the history of the Roman empire down to the death of Carinus, the immediate predecessor of Diocletian: these lives compose a period of 167 years of the history of the Roman empire. They may be considered as a continuation of Suetonius's Twelve Caesars; except that between Diocletian and the last emperor in that series, the reigns of Nerva and Trajan are not included in either of the two series. We know from Lampadius that four historians had written Trajan's biography, Marcus Maximus, Fabius Marcellinus, Aurelius Victor, and others; and a Vestal girl, who had taken the name of Africa Augustus, was the last. The writings generally included in the collections of the Historia Augusta are six in number; they lived under Diocletian and his successors Constantine and Constantine. They are: 1. Aluisius Spisanianus, and his colleague Aluisius Verus; of Dellius Julianus, of Sepinus Severus, Pascentinus Niger, Antoninus Caracalla, and Antoninus Geta. Spartanianus dedicated the first four to the emperor Diocletian, and he states in his life of Aluisius Verus, that his intention was to write the lives of all the emperors from the great dictator Julius Caesar, and of all those who, whether they were the sons or relatives of the emperors, or were by them adopted, had received the title of Augustus, beginning with the issuing of his Life of Verus, that he had written the lives of the two Constantines before Halmian, which however have been lost. 2. Julius Capitolinus is the second writer in the series. He wrote the lives of Antoninus Pius, of Marcus Aurelius, and of the second Verus. He also wrote the lives of Pertinax, of Claudius Albinus, of Ophius Maximus, of the two Maximini, of the three Gordians, and of Maximus and Balbinus. He appears to have written other works also, which are lost. 3. Julius Lampadius, to whom we are indebted for the life of Elagabalus, Antoninus, and Alexander Severus; the two last are dedicated to Constantine. There are, however, considerable doubts whether some, if not all of these, were written by Spartianus; and both G. Voss and Faberius seem to think it not unlikely that Aluisius Spartianus and Elais Lampadius are one and the same writer.

See literary notices prefixed to the Bipont edition of the Historia Augusta. 4. Valerius Gallicianus, a senator of Rome, of whom we have only the life he dedicated to Diocletian. 5. Trebellius Pelleius: we have fragments of his lives of Valerian the elder, and his son Valerian the younger; the lives of the two Gallieni; and those of the Thirty Tyrants, who assumed various parts of the empire and the dioceses of the distracted reigns of Valerian and Gallienus. Among these thirty, Trebellius Pelleius has reckoned two women, the famous Zenobia of Palmyra, and one Victoria. He has also written the life of Flavius Claudius, one of the ablest and best emperors, and the first of the line of Aurelian; and he has endeavored to repair the evils of the disastrous reigns which had preceded his. 6. Flavius Vespasianus of Syracusae. He lived under Constantine, and wrote the lives of Aurelius, of Tacitus, and his brother Florianus, of Probus, of the four emperors, First of the East, and the two emperors of the West, who usurped the supreme power in various parts of the empire under Aurelian and Probus; and also of the three emperors, Carus, Numerianus, and Carinus, who immediately preceded Diocletian. Here the collection called Historia Augusta generally ends. Some editors, however, have added Eutropius and Paulus Diaconus, two writers of a very different class from the preceding. (See the Milan edition of the Historia Augusta, 1473.) Others have included the three last writers of the Bipont edition. (See Aldine edition of the Historia Augusta, 1819.) But in general the Historia Augusta consists of the Roman writers above-mentioned. Claudius Eusthenius wrote the lives of Diocletian, Maximinus Herculeus, Constantius, and Maximinus Daia; and his work is preserved in the Historia Augusta, had they not been lost. There is a break in the Historia Augusta occasioned by the losses of Philipicus, Decius, and Gallus, which are wanting. (Fabricius, Bibliotheque, ed. vo. 20.) 7. Claudius A.D. vo. 14. 8. Lucius Latrus; and the Bipont edition of the Historia Augusta.

AUGUSTIN, ST., Bishop of Hippo, also called Aus· lius Augustinus, one of the fathers of the church, was born, as he himself informs us (Epist. 227), at Tagaste, a town in the province of Numidia, about 76 years in North America; and American Almanac for 1834.)

AUGUSTA HISTORIA, the name given to a series of Roman historians, or rather biographers, who wrote the lives of the Emperors, and the history of the Roman empire down to the death of Carinus, the immediate predecessor of Diocletian: these lives compose a period of 167 years of the history of the Roman empire. They may be considered as a continuation of Suetonius's Twelve Caesars; except that between Diocletian and the last emperor in that series, the reigns of Nerva and Trajan are not included in either of the two series. We know from Lampadius that four historians had written Trajan's biography, Marcus Maximus, Fabius Marcellinus, Aurelius Victor, and others; and a Vestal girl, who had taken the name of Africa Augustus, was the last. The writings generally included in the collections of the Historia Augusta are six in number; they lived under Diocletian and his successors Constantine and Constantine. They are: 1. Aluisius Spisanianus, and his colleague Aluisius Verus; of Dellius Julianus, of Sepinus Severus, Pascentinus Niger, Antoninus Caracalla, and Antoninus Geta. Spartanianus dedicated the first four to the emperor Diocletian, and he states in his life of Aluisius Verus, that his intention was to write the lives of all the emperors from the great dictator Julius Caesar, and of all those who, whether they were the sons or relatives of the emperors, or were by them adopted, had received the title of Augustus, beginning with the issuing of his Life of Verus, that he had written the lives of the two Constantines before Halmian, which however have been lost. 2. Julius Capitolinus is the second writer in the series. He wrote the lives of Antoninus Pius, of Marcus Aurelius, and of the second Verus. He also wrote the lives of Pertinax, of Claudius Albinus, of Ophius Maximus, of the two Maximini, of the three Gordians, and of Maximus and Balbinus. He appears to have written other works also, which are lost. 3. Julius Lampadius, to whom we are indebted for the life of Elagabalus, Antoninus, and Alexander Severus; the two last are dedicated to Constantine. There are, however, considerable doubts whether some, if not all of these, were written by Spartianus; and both G. Voss and Faberius seem to think it not unlikely that Aluisius Spartianus and Elais Lampadius are one and the same writer.

See literary notices prefixed to the Bipont edition of the Historia Augusta. 4. Valerius Gallicianus, a senator of Rome, of whom we have only the life he dedicated to Diocletian. 5. Trebellius Pelleius: we have fragments of his lives of Valerian the elder, and his son Valerian the younger; the lives of the two Gallieni; and those of the Thirty Tyrants, who assumed various parts of the empire and the dioceses of the distracted reigns of Valerian and Gallienus. Among these thirty, Trebellius Pelleius has reckoned two women, the famous Zenobia of Palmyra, and one Victoria. He has also written the life of Flavius Claudius, one of the ablest and best emperors, and the first of the line of Aurelian; and he has endeavored to repair the evils of the disastrous reigns which had preceded his. 6. Flavius Vespasianus of Syracusae. He lived under Constantine, and wrote the lives of Aurelius, of Tacitus, and his brother Florianus, of Probus, of the four emperors, First of the East, and the two emperors of the West, who usurped the supreme power in various parts of the empire under Aurelian and Probus; and also of the three emperors, Carus, Numerianus, and Carinus, who immediately preceded Diocletian. Here the collection called Historia Augusta generally ends. Some editors, however, have added Eutropius and Paulus Diaconus, two writers of a very different class from the preceding. (See the Milan edition of the Historia Augusta, 1473.) Others have included the three last writers of the Bipont edition. (See Aldine edition of the Historia Augusta, 1819.) But in general the Historia Augusta consists of the Roman writers above-mentioned. Claudius Eusthenius wrote the lives of Diocletian, Maximinus Herculeus, Constantius, and Maximinus Daia; and his work is preserved in the Historia Augusta, had they not been lost. There is a break in the Historia Augusta occasioned by the losses of Philipicus, Decius, and Gallus, which are wanting. (Fabricius, Bibliotheque, ed. vo. 20.) 7. Claudius A.D. vo. 14. 8. Lucius Latrus; and the Bipont edition of the Historia Augusta.
unanimously of opinion that he should be chosen one of their number. In 393 he became coadjutor to Valerius, and not long after was elevated to the bishopric of Hippo. He appears to have established about this time a kind of clerical community within his episcopal residence; and was still active in his opposition, not only to the heresies of the Manichæans, but to the Manichean doctrine. The Waldenses called De Civitate Dei, is believed to have been begun a.d. 413. In 418, after the general council held at Carthage, he produced his two works against the Pelagians, De Gratia Christi, and De Peccato Originali, from the former of which he.summarized the opinions of the "teachers of Origen." His labours were continued both personally and by his pen to the close of his life. His last work was his Confessiones.

In the latter part of his career, however, he had other comrades besides those of the church. The Waldenses had entirely overrun Africa, and passed even into Spain, and Augustin now had for his opponents the enemies of the empire. Carthage and Hippo made resistance for a considerable time; and St. Augustin, though pressed by his associates, refused to quit his flock and escape by flight. Still he saw the imminent danger to which Hippo was exposed; and dreaming that it would fall into the hands of the enemy, prayed to God that before that calamity happened, he might have an opportunity of answering the question, if it should appear, was answered, as he died during the third month of the usage of fever, August 29th, a.d. 430, at the age of 76. (Victor Vitensis Episc. Hist. Persecut. Vandecacie, v. 80. Paris, 1694, p. 113.) The Vandals, who took Hippo the year after, pillaged the city. His body, Victor Vitensis (Hist. Persec. ut supr. p. 6) says his library contained at that time two hundred and thirty-two separate books, or treatises, on theological subjects, besides an exposition of the Psalms and the Gospels, and an innumerable quantity of homilies and epistles. The Catholic bishops of Africa carried his body to the island of Sardinia, the place to which they were driven by Thrasamond, King of the Vandals, a.d. 509; and Luippard, King of the Franks, a.d. 721, from Sardinia to Pavia (Borroni Annales, fol. Lesen, 1738-54, tom. xii. p. 390.) An account of the supposed discovery of his relics, at a later time, will be found in Mainfasonis De Inventione, ap. Paris, 1799, pp. 24, 47; see also Munsteri, Antiq. Ital. Mediae Aevi, tom. v. fol. Milan, 1741, dissert. viii. p. 9.

St. Augustin's works, as the reader will have gathered from the preceding account of him, were numerous, and have been printed in a collected form repeatedly: at Paris, in 10 vols. fol. 1532; by Erasmus, from Frobenius's press, 10 vols. fol. 1540-3; by the divine of Louvain, 10 toms. fol. 1546; and by the Benedictines of the congregation of St. Maur, 10 toms. fol. Paris, 1679-1700; 12 vols. fol. Bâle, 1700. The reader who is desirous to become acquainted with the detached titles of St. Augustin's works, may consult the Index Scriptorum Christianorum, by his friend and colleague, C. d'Albigny, skilfully and accurately compiled, and published for the month of August, tom. vii. pp. 441-450, with annotations; and the same work, pp. 353-357, for the progressive years of the production of the greater part. Some of St. Augustin's works are among the earliest specimens of typography known in our libraries. The Liber de Arte Predestinationis was printed by Fust at Mentz, in folio, before 1466, and another edition appeared in that very year from the press of Mentz. The first edition of the treatise De Civitate Dei was printed by Swayneheim and Pannartz, in the most part by hand, in 1472, and repeated in 1473. De Vitæ Christianæ, and De Singularitate Ciceronii, in the same year, by Olibra Zell, at Hanau, in 4to.

The character of Augustin, says Chalmers, has been depreciated by some moderns; but ought undoubtedly to be considered with a reference to the times in which he lived, and the state of learning and religion. There is neither wisdom nor caution, however, in collecting and publishing the faults of his early years, nor in denying that he may have made mistakes, or has fallen into errors. Those who preserved and elucidated many of those doctrines which are held sacred in days of more light and knowledge. The following is the character of him which has been described by Bishop Moser. The fame of Augustin, Bishop of Hippo, died the whole world over; and ought undoubtedly, as a variety of great and shining qualities were united in the character of that illustrious man. A sublime genius, an uninterrupted and serious pursuit of truth; an invariable integrity; a spirit of laborious diligence and industry; and a sublime and lively wit, consoled to establish his fame upon the most lasting foundations. It is, however, certain that the accuracy and solidity of his judgments were by no means owing to the bequest or donation of the eminent talents now mentioned; and that, upon many occasions, he was more guided by the violent impulse of a warm imagination than by the cool dictates of reason and prudence. Hence that ambiguity which appears in his writings, and which has excited such great altercation. The reasons are uncertain with respect to his real sentiments; and hence also the just complaints which many have made of the contradictions that are so frequent in his works, and of the levity and precipitation with which he set himself to write, and especially in his later vices, which he referred to the influence of Manichæans, to which he related his connexion with the Manichæans, will be found in Lardner's Credibility of the Gospel History, part ii. vol. vi. pp. 38, 39, and again part ii. vol. x. pp. 299-303, where the value of Augustin's works may be estimated by the opinions of his contemporaries. His books are, however, such as Lardner has drawn from them. The more ancient lives, however, from which the chief facts of the preceding account have been derived, will be found in the 8th volume for the month of August of the Acta Servatorum Ecclesiae, and in the Ecloga Augustini in Actis et atasis ad obitum, by Sozennio, and sozennio, quosque per annos ero quadrangulis conscriptus: Ex ed. Romani, anno 1713, cum versiculo M. collat. Another ancient life of St. Augustin has been more recently edited:—Vita D. Aev. Augustini Episcopi Hippomariani, auctore incerto, ex antiquo codice nume primo editi Andra. Gul. Cramer, 8vo. Kilims in Libraria Universitatis, 1823.

Augustin (St.) Canons of the Order of Usualy called Austin Canons. Regular Canons, says Bishop Tanner (Pref. to Notiti. Monast.), were such as lived under some rule: they were a less strict sort of religious than the monks, but lived together under one roof, had a common dormitory and refectory, and were obliged to observe the rule of St. Augustine. The chief rule for these canons was that of St. Augustine, who was made Bishop of Hippo, a.d. 395. But they were little known till the tenth or eleventh century, when not a few were brought into regular orders. They seem not to have obtained the name of Augustin or Austin Canons till some years after. (Bingham, Antiq. of the Church, b. v. c. 2. s. 9.)

Bale (Script. cent. xiii. 4.) and Sir Robert Althyn (Antiq. of Glouc. p. 1) say, that these canons were brought into England by St. Birinus in the beginning of the seventh century; a.d. 630 or 640, as Fuller states in his Church History (b. vi. p. 369); but those were certainly secular canons whom he placed at Dorchester in Oxfordshire; and who were in other respects agreed to, were secular canons from the same period. According to Fuller (CA. Hist. ut sup.), they were seated in London, a.d. 1049; but this is not believed. Sommer says that St. Gregory's is in Canterbury, which was built by archbishop Lanfranc a.d. 1084, was their first house (Antiq. h. c. 6. p. 89), but is sure that St. Gregory's was not built till the eleventh century. According to (CA. Hist. ut sup.) p. 89) that Archbishop Lanfranc placed secular canons at St. Gregory's, and that Archbishop Corbey changed them into regulars, makes the authority of that judicious antiquary in this case doubtful. Reyner says (Apostol. Benedict. etc. p. 157) that these were not a community of the Austin Canons of Athelwulphus or Alphubus, confessor to King Henry I, N 3.
AUGER, Pierre François Charles, Duke of Castries and Marshal of France, was born of noble parents in Paris on the 11th of November, 1757. He first enlisted in the French carabiniers, and from thence entered the Neapolitan service. He obtained his discharge in 1787, but continued to reside at Naples, where he gave lessons as a fencing-master, and then the war being over, he now settled at Paris, where he lived in modest seclusion upon a small income, entirely devoted to his favourite studies. After the publication of his translation he was elected a member of the Academy. His next works were a translation of "Isocrates," 3 vols. 8vo., 1784, and one of "Lycurgus," 8vo., same year. He applied with equal zeal to the study of the great Roman orator, and translated the whole of his "Orations," of which he has published one volume. He died at the same time as the death of the constitution of Rome: "De la Constitution de Rome sous les Romains, et au temps de la République," which was published after his death as an introduction to the whole of "Cicero's" Orations. 10 vols. 8vo., 1784-4. The essay on the Roman constitution fills the first volume, and as an abridgment it may even now be consulted with profit, although it has been in some measure superseded by Niebuhr's more elaborate and more profound work on the history of Rome. Auger's object was to develop the system and the working of the Roman political institutions in their three essential parts—the legislative, the executive, and the judiciary. The second volume is a continuation of the first, being engrossed by a life of Cicero, chiefly relating to his public actions and his correspondence with his contemporaries. The work is valuable for the Excellencies of the Roman republic at the epoch preceding its fall. The study of Cicero and of Roman history occupied, in great measure, the last thirty years of Auger's life. He was a regular writer, in the mean time, selections from the works of the two Greek fathers, Chrysostom and Basil: "Homelies, Discours, et Lettres choisies de St. Jean Chrysostome," 4 vols. 8vo., 1785; and "Homelies et Lettres choisies de St. Basil le Grand," 4 vols. 8vo., 1786.

The first symptoms of the French revolution found Auger deeply engaged in his meditations on the Greek and Roman republics. He felt naturally favourable to the general principles of constitutional liberty which were then promulgated in France, and he wrote several pamphlets in favour of this subject. The political economy was, at that time, a new system of public education. In this "Projet d'Education Public," that is to say, the outlines of two distinct plans: one for learned classes, and another for the education of those who, not being able or not wishing to study Latin and Greek, might yet be deacons being instructed in the literature of their own country, and of the great events of the times, as well as of the philosophy and metaphysics in their native language. In a subsequent little work, "Cicéron et le Citoyen Français," 1802, 1801, he reverted to the subject of education, observing, that his former plan being intended for the higher and the middle classes, there still remained a large body of men, whose knowledge was limited to the humble state of the towns people and the rural population, for whom he had sketched out the present césant. It may have been deemed advantageous, he observes, "under the former system of government, to keep this vast multitude in ignorance, but such a state of ignorance becomes dangerous now. This class, with the knowledge of its strength, ought also to acquire the knowledge of how to use that strength without abusing it—ought to be told its duties as well as its rights—ought to become instructed, orderly, and moral. In his césant he clearly defines the rights and the duties of individuals under a system of well-understood liberty; and he draws the line between liberty and the liberty of violence, between the equality of men and equality, which is inherent in the nature of men. That line, however, was soon after obliterated, and the consequences were fatal to France and to Europe; but the good Auger was spared the grief of seeing the catastrophe; he died in Paris on the 29th of January, 1804, after having escaped the revolution by the death of the father of the Revolution, the Duke of Sèvres, who afterwards figured as a member of the Convention, and who had studied Greek under Auger, composed his funeral oration. Auger was a man of great eminence, in command of the implements of eloquence. He was then at work, a treatise on Greek tragedy, was published a few days after his death.
was unable to effect the passage over the bridge, but still he was rewarded by a decree of the Directory, granting to him, in commemoration of his bravery, the standard that he had borne on the occasion. [See ARCOLE.]

In the following year, 1797, the attention and interest of the world turned to the scene of action in the East, where the foreign powers, having united, fixed upon the parties which disputed for supremacy at home. The Directory was menaced by the Royalists, as well as in a great measure by the friends of constitutional government, who now began to rally to the cause of a recovery of the Constitution, which had been restored to the public. But this party, amongst its other imprudent acts, committed the great mistake of making the armies hostile to it. Bonaparte was accused for his conduct towards Vene
evex as an assassin of the Directory. The general reply of offering his services to the Directory, and by sending addresses from his soldiery in favour of republicanism. In the camp of the army of Italy Augereau was no less in his executions of royalty, and so extreme in his revolutionary ideas, that Bonaparte, at once to get rid of him, and to provide the Directory with a useful agent, sent him to Paris. Here he continued his tone of vaunting and violence amidst the feuds and hatreds with which he surrounded himself, and most furious Jacobins, and displayed so dangerous a spirit, that the Directory was obliged to deprive him of the command, and remove him to Perpignan. Augereau found his way to Paris, and was there on Bonaparte's return from Egypt. It is much to Augereau's honour that, disenchanted as he was with the Directory, and connected as he had been with Bonaparte, the latter could not count upon his assistance in the revolu
tion of the 18th Brumaire. Bernadotte and Augereau were the only generals whom Bonaparte dared not summon to his sale. Augereau was at St. Cloud; for he had been elected deputy to the Cinq Cents, and anxiously hoped that the representative body and the republic would triumph over the military usurper. While the result of the struggle was in the air, and as the tide rose, Bonaparte said, 'Wel
you have brought yourself into a petty dilemma.' 'Augereau,' rejoined Bonaparte, 'remember Arcole; my fortune seemed more desperate there; yet I retrieved it then, and shall now!' He was right; the usurpation was completed, and he was submitting with the rest.

Bonaparte distrusted his old comrade too much to appoin him again to the army of Italy. During the campaign of Marengo, Augereau commanded a division, for the most part Dutch, on the Lower Rhine, where he had hard fighting and little glory. After the treaty of Lu

The recovery of his health. In the years 1809 and 1810, he commanded in Catalonia, where he showed but little inery to the Spaniards. Considering Augereau as a ve

ern general, Napoleon, instead of taking him to Russia in 1812, left him to form a corps of reserve at Berlin. This, however, was not the case, for he resisted the attempts of the enemy, and it was with some difficulty that he escaped. Notwithstanding this age, Augereau took part in the campaign of Saxony, and made a valiant stand near Leipzig, defending a wood against superior forces. In 1814 he was intrusted with the command of the French forces in Belgium, when he occupied Lyons, and organized its defence. At first he repulsed them in several combats; but at length, aware of their prodigious superiority of force, as well as of diminishing the discipline of the French, he made a capitula
tion, and retired to the south.

Napoleon considered his conduct on this occasion as little short of treachery; and it is certain that, of all the Marshals, Augereau was the least attached to a master who was so much his junior, and who, by his usurpation, had blotted the ambition of the republican general. Augereau made his peace with the Bourbons, was confirmed in his dignities, and created a peer. On the return of Napoleon in 1815, Augereau kept aloof. Louis XVIII., in a second letter, sent him the painful task was imposed upon him of being one of the coun
cil to try Marshal Ney. His vote of condemnation on his brother soldier is the greatest blot upon Augereau's name in the history of France. His only attempt to survive, being brought to the grave by a drapery in June, 1816.

AUGILA, or AUDJELAH, as the Arabs pronounce it, is a town situated in an oasis within the great Desert of Bara, on the track of the caravans which trade between Cairo and Palmyra. It is a rich oasis, and of great use to the geographers. Renell, in his Geography of Herodotus, places Augila in 30° 36' N. lat., and 22° 46' E. long., 150 miles S.E. of Bara, and 180 W. by N. of Siwa, in the Oasis of Ammon, and 24° 42' E., by N. of Musirin in Fezzan. Herodotus (iv. 182) places Augila ten days jour

ney from the city of the Ammonians; and Hornemann, who travelled from Siwa to Augila in 1797, found the calculation correct. The Oasis of Augila is a depend
cency of the Beylak of Bengazi, which is that province of the regency of Tripoli. It contains two other towns or large villages, besides Augila, namely, Mojabra and Melodila. The people are chiefly employed in the caravan trade; and they have established, of late years, direct communications with the countries of Borno, Bornoo, and Bagherno, without passing through Fezzan. They have also caravans which trade with the port of Bengazi, on the Mediterranean Sea. The country round Augila is well watered, and has extensive gardens. Of the dates of Augila, spoken of with praise by old writers, and especially by Abulfeda, Hornemann makes no mention.

The women of Augila make grey woolen clothes, called Aliya, which is sold in Fezzan. The town of Augila is ill built and dirty. The inhabitants speak, besides Arabic, another language which resembles that of Siwa, of which Hornemann gives a short vocabulary.

AUGITE. The minerals to which this name has been applied present us with some of the most interesting and at the same time most difficult investigations that can fall under the notice of the mineralogist and chemist, and have frequently occupied the attention of the most eminent men of science in those branches of science which relate to their origin. For not only would a thorough knowledge of their constitution, and the relation which they bear to other minera

particulars, particularly to the genus hornblende, tend much to the perfection of the mineralogical system, and to their frequent occurrence in nature, and from their formation into one of the principal ingredients in many porphyrite and trap rocks, such as the syenite, diabase, and schorl-rocks, green-stone, &c., they form a class of bodies of the highest interest. A distinction is made between the minerals which are favourable to the formation of one or other of the species, to the exclusion of the rest, would be likely to afford a safe guide in many geological inquiries. But for the character and formation of these rocks of origin. For such reasons we shall endeavour to lay this subject before our readers in as satisfactory a manner as possible; but in doing so we encounter considerable difficulty, owing to the uncertain state of our own knowledge on many im

M 2
important points, as well as from the various views which have been taken of these minerals by different writers, the effect of which has been the use of the term 'augite' in a more comprehensive sense by some authors than by others. Under these circumstances, we have thought it most advantageous to give an outline of the different views which have originated from the highest authorities, rather than to adopt any one opinion which is not incontrovertibly established: the advantages which we hope to attain by this plan are twofold, namely, to avoid the risk of endeavouring to establish any erroneous opinions, while we attain a more comprehensive view of the whole.

As a little would be learnt by inquiring into the views taken of the genus augite before the time of Werner, it need only be stated, that this mineralogist was the first to divide a large class of minerals, occurring commonly in basalt, lavas, and other volcanic rocks, into two specific terms, to which he applied the names of augite and hornblende. This division was founded on the difference existing between the crystallized forms and structure which, according to the experience up to that time, were never associated with each other. The same division was shortly after adopted by Hauy, who applied to them the names of pyroxene and amphibole, and gave the measurements, determining the oblique rhombohedra prismata, with their most general modifications characteristic of either species, which, however, he had only modified by the later measurements of Rose, Mitscherlich, and Kupffer.

Augite, or pyroxene. Hornblende, or amphibole.

Fig. 1. Fig. 2.

Professor Mohs, however, together with Professor Jameson of Edinburgh, has used the term augite to denote the eighth genus of their respective systems, which consists of the four species designated as follows:

First species. The oblique-edged augites, corresponding with the augite of Werner, and pyroxene of Hauy.

Second species. The straight-edged augite, corresponding to hornblende and amphibole.

Third species. Prismatical augite, containing as sub-species the minerals epidote or zoisite.

Fourth species. Prismatic augite; tabular spar, or Wolastonite.

Berselius, on the contrary, viewing the subject in a chemical point of view, has been induced to use the term augite or pyroxene, hornblende or amphibole, in the same sense as employed by Werner and Hauy. According to him, the augites are composed of one equivalent of the bisulphate of lime, united with one equivalent of the bisulphate of magnesia, which expressed in his chemical notation, on the supposition, however, that silica is formed of one equivalent of oxygen to one of silicium, is

Ca\text{Si}_2^+ + Mg\text{Si}_2^+.

There are several varieties of this genus formed by the removal of the magnesia or lime, which are replaced either by one or both of the isomorphous substances— the protode of iron, and protode of manganese. Of these the following are the principal:

1. Disopasite, which may be considered as the type of the augite genus, is readily recognized by the form of its crystal given in fig. 1, and by the direction of its four nearest planes, the most perfect corresponding with the faces M, those in the direction of r and i being less easily obtained; and by its pale-green, or greyish-white colour, and vitreous lustre. Its hardness is 5'5, and its specific gravity is 3'299. Alone before the blowpipe it melts into a colourless, semi-transparent glass; with borax, very readily into a transparent glass. Its chemical constitution is expressed by the formula given above, as will be seen by the following analysis of a variety from Tammare by Bonsdorff:

Silica 54'83
Lime 24'76
Alumina 9'38
Magnesia 18'55
Loss by heating 0'32
Specific gravity 3'299

Several varieties, little differing from the above, are called backalite and fassaithe, names indicative of their locality.

2. Hedenbergite, whose constitution may be stated by the formula C\text{Si}_2^+ + F\text{Si}_2^+, as may be seen by the analysis of G. Rose of a variety from Lunenberg, who obtained of Silica 49'01
Lime 20'67
Protode of iron 26'66
Protode of manganese with magnesia 2'98
Specific gravity 3'90

It is of a dark-green colour, sometimes nearly black.

3. Sasalite, those varieties in which the magnesia is only in part replaced by protode of iron, and whose composition G. Rose expresses by

Ca\text{Si}_2^+ + Mg\text{Si}_2^+

Berselius gives the formula,

(C\text{Si}_2^+ + Fe\text{Si}_2^+) + 2 (Ca\text{Si}_2^+ + Mg\text{Si}_2^+),

as expressing the constitution of a variety from Bjornmore, in Sweden, which would therefore be one equivalent of hedenbergite united with two of disopasite. He calls it malakolith. (See "Abhandlung der Naturkunde," by Berselius.)

4. Disopasite: the constitution of this variety is expressed, on the authority of Berselius, by Fe\text{Si}_2^+ + 3 Mg\text{Si}_2^+, of G. Rose, by Mg\text{Si}_2^+ + Ca\text{Si}_2^+Fe;

Mg of F. Kobell, by Ca\text{Si}_2^+.Mn

The difference in the analysis by Köbler of two specimens, the first from Tuscany, the second from Utenthal in the Tyrol, would perhaps rather indicate the latter:

Silica 53'29
Lime 19'00
Magnesia 14'01
Protode of iron 8'47
Protode of manganese 0'38
Alumina 2'47
Water 1'77
Specific gravity 10'02

This variety is characterized by its mother-of-pearl lustre, and by its possessing the most perfect cleavage in the direction of the diagonal of the prism. It is seldom found in perfect crystals. Its most general colour is a bronze yellow.

5. Hypersthene, which is very similar in its general appearance and characters to disopasite, has the following constitution: Fe\text{Si}_2^+ + Mg\text{Si}_2^+.

Both of the last-mentioned varieties may be distinguished from the former, as well as from each other, by means of the blowpipe, and by attending to the following characters as stated by Berselius:

Disopasite alone in a matrix decomposes, becomes of a lighter colour, and gives off a little water.

On charcoal it is with difficulty melted on the edges into a grey mass.

With borax it is very difficultly fused into a clear glass, somewhat coloured by the protode of iron.
Decomposed by the phosphate of soda and ammonia, with the development of the silicate.

Hypersthene, on the contrary, when heated alone in the manner of augite, becomes a little waxy, and forms a greasy opaque glass, as is also the case when heated with beryll.

The salt of phosphorus does not apparently decompose it, but the mineral at first becomes rounded on the edges, and may at length be entirely fused.

The structure also deserves particular attention, the cleavage planes in hypersthene being perfect, both in the direction of the faces r and s, the latter of which are obtained in duality with very great difficulty.

We have now described the various species generally considered as comprehended within the genus augite or pyroxene; but Professor Gustave Rose has published a paper in Physique et Chimie, Brussels, in the year 1831, the object of which is to prove the necessity of uniting augite and hornblende (pyroxene and amphibole) under the same genus. His arguments for this union are the following:—first, that the two prisms of augite and hornblende, however different in appearance, admit of being derived one from the other, according to the laws observed to connect the crystallographic forms of varieties of the same genus in other minerals. To show this, let the accompanying parallelogram, whose semi-diagonals are a and b, represent the horizontal section of the prism of augite; since the whole angle of this prism at A is 87° 42′, a is the tangent of an angle of 43° 32′; if this tangent be doubled the corresponding angle will be found to be 62° 15′ 25″, the double giving 124° 30′ 50″, an angle agreeing most closely with 134° 21′, the angle obtained by Mitscherlich in a species of hornblende when measured by Wollaston's reflecting goniometer. The larger parallelogram, therefore, by doubling the diagonal a, is the horizontal section of the prism of hornblende.

A similar relation is also approximately true for the inclination of the faces r and s in augite and r in hornblende; for if the angle 120° 57′ of augite be halved, and its tangent doubled, the corresponding angle is 74° 11′ 31″, and by doubling this we obtain 148° 22′ 42″, not much differing from 148° 23′, as found between r in hornblende of Vesuvius by Rose.

His argument drawn from the chemical constitution of these minerals is by no means so satisfactory; for though in hornblende we find a series of bisilicates of the same bases, and as it were running parallel with those already described as augites [see HORNBLende], the circumstance observed by Bunsen, that all the varieties of hornblende contain fluorine, while G. Rose has been unable to detect that element in augite, weakens the connexion between these minerals, and renders the determination of what part the fluorine acts in their constitution a matter of considerable doubt, and even the object of the solution of the truth of the law is therefore somewhat doubtful, and the difficulty of determining what is the action of the alumina, which occurs in considerable quantity in some hornblendes, prevent us from forming any opinion from the results of chemical analysis.

The observations of Mitscherlich, made on different rocks of the Urals, of the Ural Mountains, tend to prove the existence of the connexion between the forms of augite and hornblende which is essential to their constituting one genus, in a more satisfactory manner than any remark hitherto made. He discovered a soft greenish green-stone, near the village of Matesovka, which is situated north of Katherinenburg, and on the road to Newian, and also at the gold-washings of Cavidinski, near Misak, in a green-stone somewhat harder and darker than the former, imbedded crystals of the form of augite, but not its cleavage planes, these last being found to coincide with those of hornblende. This mineral was therefore either hornblende in the form of augite, or augite with the cleavage planes of hornblende.

At the village of Mualakajew, near Misak, he discovered a still more interesting fact. Here he found a green-stone similar to that last described. They were abundant, and possessed the form of augite: the smaller crystals had cleavage planes parallel to the sides of the prism of hornblende, and were similar in their appearance and colour to those obtained in Cavidinski. The larger crystals, however, possessed a kernel of a grass-green colour, and of a lighter tint and greater lustre than the exterior. This kernel differed from the darker exterior portion of the crystal, the latter giving the clear green stone, the former presented those of augite, with faces sufficiently bright and perfect to admit of measurement by the reflecting goniometer.

The observations of Mitscherlich and Berthier on the formation of augite as an artificial product are so interesting in themselves, and throw so much light on the nature of augite in general, and on those crystals we have just described, for which Rose proposes the name of uraite, that we cannot omit to notice them in this place. Mitscherlich has observed that the former possessed the form, structure, and chemical composition of certain minerals found in nature. From this source he has obtained upwards of forty varieties:—and among these, specimens possessing the form and structure of augite is very frequently found, and with ease. Guided by these observations, a mixture of silicates, lime, and magnesia in the proportion indicated by the formula $Ca\ Si\ + Mg\ Si$ was submitted to fusion in the porcelain ovens of Sèvres, near Paris. On examination, the mass was found to have been converted into a green-stone possessing cleavage planes corresponding with those of augite, and a hollow formed in the centre from the contraction in cooling contained crystals of the form of Fig. 1. By these processes they failed in obtaining crystals either of the form or structure of hornblende. As the nearest place to refer to the other results obtained by those chemists, we must refer our reader to the original papers in the Ann. de Chimie et de Physique, tom. 34, and the Ann. des Mines, tom. 9, particularly those who may be interested in mettallurgical processes.

Professor G. Rose, in accounting for this production of augite to the exclusion of hornblende, was led to consider that it was not the absence of the fluorine, or any error in the experiments, which caused the latter to be excluded, but the rapidity with which the crystals were obtained. This he fully confirmed by the following experiments:—a light-green variety of hornblende, the stahlblaste of the Germans, from Zillerthal in the Tyrol, was submitted to fusion in a porcelain crucible in a current of air. It was completely fused, and in cooling had formed fibrous tufts of dark crystals, which, however, admitted of measurement by Wollaston's goniometer, when the angles were found to correspond with those of augite. A specimen of augite, of the same locality as that which was cooled into a dark mass, but regained its former structure.

We may therefore consider it to be demonstrated that augite is formed whenever the process of cooling, and consequently of crystallization, is rapid; and hornblende, when it is conducted more slowly. Many circumstances confirm this view:—the uraites of Rose appear to be its natural consequence; for, as by the laws of caloric we know that the quantity of heat lost during equal portions of time varies with the temperature of the exterior atmosphere, the crystal alone must have crystallized under a more gradual loss of heat than the interior, while at the same time the temperature would be maintained by the specific heat given out by the parts first consolidated. The general occurrences of augite and hornblende in lavas of which they are found associated, affords another argument in favour of this supposition; for augite is usually met with in syenite, trachyte, and lava, accompanied by quartz, feldspar, albite, &c., minerals which decidedly require a slow process of cooling for their formation; on the contrary, augite occurs in basalt and lava with olivine, which Mitscherlich has recognized in the scoriae of various foundries, and which is therefore formed by a process of rapid cooling.

We are thus able to account for H. von Buch's remark in his Geology of Norway, that the layers which constitute the feldspars have hornblende, but no augite.

Induced by these circumstances, Rose, in a tabular view
of the minerals which he has added to his Elements of Crystallography, published at Berlin in 1833, has united into one genus the following species.

1. Diopside. Ca $Fe_{2}Si_2 + Mg Si_2$.
2. Sahlitte. Ca $Si_2 + Mg Fe$.
3. Heldebolgenite. Ca $Si + Fe Si_2$.
4. Basaltic augite. Ca, Mg, Fe, Al, Si.
5. Rothbraunstein. Mn Si.
6. Arcomite. 3 Na Si + 2 Fe Si.
7. Diagite. Mg $Si_2 + Ca$.
8. Biotite. Mg $Si_2$.
9. Hypersthene. Mg $Si_2 + Fe Si$.
10. Uralite.
11. Tremolite. Ca $Si_2 + 3 Mg Si$.
12. Anthophilit. $Fe Si_2 + 9 Mg Si$.
13. Strahlstein. Ca, Mg, Fe, Al, Si.

Basaltic hornblende Ca, Mg, Fe, Al, Si.

AUGMENTATION, in music of the olden time, was, as Master Morley tells us, 'an increasing of the value of the notes above their common and essential value,' and indicated by a sign. It is unnecessary to dilate on this term, which, as well as many others of the same date, has long been known to musical and theatrical phantasies.

AUGSBURG, the capital of the Bavarian circle of the Upper Danube, stands on a gentle eminence in an agreeable and fertile country, near the influx of the Wertach into the Lech, and by the branches of the Danube rivers, its $4^\circ 41'$ N. lat. and $10^\circ 54'$ E. long. It lies 1460 feet above the level of the ocean, about forty miles N.W. of Munich; and both from its position and the number of main roads which traverse it, has long formed one of the central points of the internal commerce of Germany. It is divided into three quarters—upper, central, and lower towns, independently of the suburb of St. James, which lies outside of the walls; it is intersected by four canals, which supply the mills and manufactures of the town with water. The outer boundary of the gloria has been converted into delightful walks, along which the circuit of the city may be made in a couple of hours; and within the gloria runs a wall flanked with towers, bulwarks, and gates, with nineteen principal and six minor entrances. The streets, with few exceptions, are narrow and irregularly built, and the pavement adjoining the feet, being composed of small flints though its disposition in a mosaic form is not unpleasant to the eye. The building of the town is of the most modern, improved by a variety of handsome buildings and squares, and embellished, though it can scarcely be said to be embellished, by the manner in which the generality of the houses are painted with stripes, either green, red, or yellow. The eye is always separated by white. Every street and lane is provided with reservoirs of water for the use of the adjoining houses, and a separate work for the purpose of enforcing the water into them.

The Town Hall in Augsburg is the town-hall, which was built by Hall in the beginning of the seventeenth century, and contains the 'Golden Hall, perhaps the most splendid apartment in Germany, its length being 116, its breadth 57, and its height 52 feet; it was used for the election of two kings of the Romans, and was decorated at a great expense with painted ceilings and frescoes, by Krager and Rottenhammer, the former of whom was elevated by the gratitude of his fellow citizens to the Burgmeister's chair. This hall, with the four royal apartments adjoining, has since been appropriated to the purpose of a picture-gallery. Among the thousand paintings which it contains (the whole arranged in chronological order), it is particularly rich in specimens of the German school. Kranach, Samsi, and Daubitz; Albert Durer's 'Experiment the First', Krager's 'Last Judgment', and Rottenhammer's 'River Gods of Augsburg, stand at the head of the series; but few will feel disposed to pick even such as these to Guido's 'Sleeping Infant'; Thien's 'Venus holding a Mirror to Cupid,' or Parmigiano's 'Madonna.' The collection of models from the antique, which occupy another apartment in the town-hall, is less in character with its externally grand appearance; public salutes, than a very complete and well-arranged collection of another description, containing the archives of the town. Adjoining this fine structure is the 'Perach Tower,' which is ascended by a staircase of 300 steps; and the 'Arsenal,' a series of 'Bridges of Weights.' The Augensburg noble group, representing 'the Demon of War vanquished by Michael the Archangel,' the work of Reval von Rain, the Bavarian sculptor. The episcopal palace (the town being still the seat of a bishop) is situated close to the cathedral; it was under this roof that Louis of Bavaria discredited his married with Cajetan, the papal legate, in the year 1518; and under the same roof, on the memorable 25th June, 1530, this great reformer presented the corner-stone of the Lutheran faith, commonly called the Augsburg Confession, to the emperor Charles the Fifth. Augsburg was the place from which that sovereign, urged by the undaunted bearing of the protestants of Germany, proclaimed the 'Interim,' or religious armistice, which recognised them as a distinct and independent community. Augustinus, an ancient and learned, who witnessed the signature of the treaty of 1533, which sealed the sword of religious strife, and left the protestants in the full enjoyment of their dearly-purchased immunities. The venerable walls of this palace were, in 1807, converted into schools for the general education of the people, and divided into apartmentes for the occasional residence of royalty. Among other conspicuous buildings are the 'Hole, a handsomely commercial mart and stockhouse, which has a machine for weighing loaded wagons and merchandise on the spot. The great and partially used public library, which is rich in Greek books and manuscripts; the Franciscan academy of arts; the school of the arts; and the 'Cathedral,' which was built in the fifteenth century and the upper part in the sixteenth, which is the third tower or the church, the first being the tower of the tenth. This edifice is 350 feet in length, and was built in 1183, and the side aisles are fitted up with four and twenty chapels, independently of several pictorial embellishments of some importance, where shrines with statues of saints may be seen from the choir; there is also a side door of bronze, carved with figures and emblems, dating from the year 1047. A visit to St. Ulrich's church, which is 310 feet in length and 94 in width, will be amply repaid by the prospect from its lofty steeples (which is 158 feet high), the building of which is in long (in the year 1519) by two brothers of the Fugger family, who, in the year 1558, the founders of more than one cardiom of the present day; it is a town of itself, situated in the suburbs of St. James, has its own church, consists of three streets and as many lanes, has three gates, and contains 1070 buildings, let out to indigent natives of the town, at a rent of two shillings per annum. A philanthropist of our own times, Lawton, a book-seller, a resident of Augsburg, in his 'good work' of commercial manufacture: first, by establishing a school of industry for 100 poor children and orphans of this his native town, in 1813, and then, two years afterwards, by establishing a school with the assistance of the old Dominican monastery for the reception and partial maintenance and employment of sixty-three aged males, forty-seven operatives, and seventy-six children, who are educated on the Lancasterian system. To these institutions may be added the one open to the instruction and a book for savings. An equally liberal and enlightened spirit has animated the more affluent classes in making provision for the instruction of their humble fellow citizens; every religious community in the town has schools of its own, the two or three week days schools attended by nearly 2000 children, the Sunday schools by upwards of a thousand, and the three female schools of industry by four hundred. Between five and six hundred youths of superior
rank are educated in the Protestant gymnasium and the
same is true of the two endowed
schools for females, the one founded by Barbara von Stal-
ternchen, who died in 1605, for protestants, and the other
conducted by the English sisterhood, for Catholics; as
well as a polytechnic institution.

Among the public embellishments of the town we
must not omit to notice the Grand Parade in front of the
cathedral; Maximilian-square, next to St. Ulrich's church; and
several open areas, which are adorned with handsome foun-
tains: the general character of these embellishments shows
the care of the people for the welfare of the Augsburg
and the Italian states. In the better days of Augsburg,
indeed, when the munificence of its citizens was lavish,
becoming the fine arts, and its native school produced
such men as Ruggendas, Hocher, Holzer, Riegler, and Frey,
the fronts of every respectable dwelling show the
glories of the pencil, and the whole Scriptures might be
studied in fresco illustrations out of doors. Not only the
fine arts, but science and the belles-lettres found patrons
in the merchants of Augsburg: their cabinets and libraries
were used with their gardens and mansions: the first tulip
brought back by the banking and exchange operations, and the transit
of the goods and services between the totality of the
population. The sale of the wines of Italy, Switzerland, and the south of
Germany, and still enjoys repute for its plate and jewelry.
It has above 200 mercantile establishments, and an annual
export of 2,000,000 marks, making it one of the leading centers of trade
in bills and merchandise. The linen and cotton
manufactures have decreased, within the last forty
years, from 1200 to scarcely more than 200 looms; the woollen
and linen-yarn spannersies, which formerly circulated nearly
30,000 yards a year, have now altogether disappeared, but retain a
comparative insignificance; but the manufacture of patch
work, and particularly of plain and coloured paper, continues
to thrive. Augsburg has indeed strong claims to the merit of
having invented the art of making paper from rags, which
came into use here as early as three years 1336–8, at which
the town has always been famous. Its machinery, too, from their experience in wood-cutting
and in stamping cards in colours, had acquired that species of
skill which rendered the process of printing an easy task
for the Augsburg presses, for which they have always
envied themselves of Guttenberg's invention. Latin Bibles,
bearing the date 1466, and a legend printed in 1471, both from
the Augsburg press, are sufficient evidence of the fact
that in the sixteenth century the Augsburg press,
produced a great variety of works, and that the Augsburg
presses were the largest publishers in Germany. The
artists of Augsburg are also famous for their engravings, and
charts are engraved and circulated throughout
Germany from Augsburg; and the present Baron
Cotta's father, the proprietor of the celebrated Allge-
meine Zeitung, and the founder of two popular periodical
works, the Morgenblatt and Abendblatt, selected Augs-
burg for the establishment of one of his four extensive
presses, which is set in motion by one of Bolton's steam-
engines.

This press was constructed by Körnig, the finest
water-grinder in Germany, and the largest press
for the production of sixty thousand impressions per
hour. The machine at Augsburg, which consists of three
presses, throws off from five to ten thousand copies of the
Allgemeine Zeitung in the course of four or five hours, and,
whereas, with the press of sixty boys, the work of sixty
pressmen; and it is estimated that the work is done in
one month for 24,000 marks. No branch of industry, however, is in a more
thriving state than the woollen manufactures of this town,
which employ nearly six hundred looms. The wool is
usually supplied from the Lochem, which set 150 wheels in motion,
and are traversed by 220 bridges and crossings. Augsburg
produces about eighty tons of beet-root sugar per annum;
and manufactures mathematical and musical instruments,
paper-hangings, print, paper, and candles, and a variety
of articles of luxury. Its population at the present
day amounts to about 35,000, of whom rather more than one-third are protestants;
but it was much greater in former times, for the yearly average of births, which are at present
under 900, was upwards of 2500 in the beginning of
the sixteenth century; even in the seventeenth they were
above 1000; and in the eighteenth, towards the end of the eighteenth century, they
had increased again to nearly 1300; from which it is
difficult to say whether they have since gradually declined to their present average. We
may add, that at the close of the sixteenth century the
number of its inhabitants is stated to have been 80,000.

The emperor Augustus passed through the city about four
years before the Christian era, to which he gave the name of 'Augusta Vindelicorum' (the city of the Vindis in the
Lochem); and hence comes the name of Augsburg. There is
nothing to note in its subsequent fortunes until the fifth cen-
tury AD, when it was occupied by the Huns. Under
the dominion of the Frankish sovereigns, and in 706 it
was almost raised to the ground during the war which raged
between Charlemagne and Tassilo of Bavaria. Upon
the dissolution of the Frankish monarchy, Augsburg fell under the sway of the dukes of Tyrol; but growing rich by
the staple commerce and manufactures, it gradually shook off all external
control, purchased its independence of its episcopal
sovereigns, was recognized as a free state by the German
emperors, and retained its rank as a free imperial city for
upwards of five hundred years—namely, from 1247 to 1705.

From about the twelfth until the sixteenth century, it was a
leading member of the famous Swabian Confederacy, which
included Ratisbon, Nuremberg, Constance, and other com-
monwealths of the Swabian League. Augsburg was
the chief medium of intercourse between the north and
south of Europe and the Levant, and supplied the markets of
northern Germany, Russia, Poland, and other countries,
with woollens and linens; and it retained its mercantile
eminence until the beginning of the eighteenth century.

In 1450, the Spaniards and Portuguese, at the close of the
fifteenth century, opened new channels to commercial enterprise.
It was at this period of its highest prosperity that the single
merchants established the free trade of Augsburg. Profiting
by the successes of Philip II., and enabled him to carry
out the sanguinary warfare carried on by the League in
France, and by his own generals in the Low Countries.
Previously to these times (namely, in the year 1365) the
patrician order was still in its infancy, and the
assistance of the patricians and their relatives in
the town, which was then the seat of the League,
was the chief medium of intercourse between the north and
south of Europe and the Levant, and supplied the markets of
northern Germany, Russia, Poland, and other countries,
with woollens and linens; and it retained its mercantile
eminence until the beginning of the eighteenth century.

In this eighteenth century, the use of
Frankfurt on the Main inflicted a blow on the prosperity of
the town from which it has never recovered. Augsburg
indeed has ceased to be a place of importance in the cir-
culation of exchange in Europe, and Frankfurt is now the
place of business for the exchange of money-market.
The city of Augsburg was occupied by the French
in August (the date we are not acquainted with), that an
Augsburg merchant might, at any time between the ac-
ceptance and the maturity of a bill drawn on him from any
European sign place, obtain the use of the Augsburg
acceptance was not binding. Whether this law now exists
we are not quite sure, nor can we undertake to say how
much of the decline of the commerce of Augsburg is due to
it. Under the settlement of Germany, in 1609, Augsburg
was recognized as one of the six Hanse towns, which were
declared independent of the German empire; but three
years afterwards it was merged into the dominions of Bavaria,
under the treaty of Passau; and in March, 1806, it was
surrendered accordingly into his Bavarian majesty's hands,
with the French general René, acting under the orders of
Napoleon Bonaparte.

Augsburg is the birth-place of Holbein, Holl, and other
eminent artists. The gardens and places of public resort
around it, as well as the rides and walks in its delightful
suburbs, afford the most agreeable and healthy
residences. As a town, it never entirely
recovered from the injuries of the Thirty Years' War, which
were sustained, according to its situation in the affairs of Saxony, after which two copies of the
Confession, one in German and the other in Latin, were
delivered to the Emperor, bearing the signatures of John
Elector of Saxony, George Marquis of Brandenburg
Ernest Duke of Luneburg, Philip Landgrave of Hesse

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and Wolfgang, Prince of Anhalt; besides those of the five towns of Nuremberg, and other cities. The Confession was immediately afterwards printed, and, being translated into various languages, was spread over Europe. It has ever since continued to be the rule of the Lutheran Church in matters of faith. It consists of forty-eight articles, twenty-five of which were the same as those of the Augsburg Confession, but with some alterations. The Roman Church, and the other Swiss and French reformers did not subscribe to the Confession of Augsburg, as they differed from it on several points, particularly about the Lord's Supper. The style of the Confession is clear and fluent, and it was published in four octavo sheets of thirty-two pages. It was a very important document, as it constituted one of the books of authority of the Lutherans which were published, including the Confession, at Dresden, in 1536. Ernest Solomon Cyprian has written a good history of the Augsburg Confession, and Weber in a Commentationes Historicae, published by Luther in the year 1535. Kirchengeschichte, and Moseheim's Ecclesiastical History, and Notes, by Dr. Murdoch.}

AUGSBURG GAZETTE. (See Allermann Zeitung.)

AUGUST, a village in the canton of Basel, in Switzerland, built on part of the ground occupied by the ancient Augusta Rauriscorum, a Roman colony under the empire. The remains still existing are not very considerable; they were discovered by Louis de Jaucourt, in his Asia Antiqua Illustrata. Medals of Roman emperors have been found in abundance in the ground. August is situated on the left or southern bank of the Rhine, six miles S.E. of Basel.

AUGUR. The earliest inhabitants of Italy, like all rude nations, imagined that they saw in every unusual occurrence a manifestation of the will of heaven. The power of interpreting the signs thus furnished by the gods was thought to depend upon a peculiar talent conferred upon the favoured mortal from his birth, but a certain discipline was necessary to maintain it and enable it to be fully developed. A superstition so deeply seated in the minds of the people was turned to account in the political constitution of Rome, by the establishment of a college of augurs, whose duty it was on all occasions of importance to ascertain, by the Curia or public or the gods, whether the nature, by certain arts to ascertain and report the pleasure or displeasure of the gods. Romulus himself was said to have been skilled in the arts of divination from his earliest youth, and at the foundation of the city the claims of the rival brothers were decided by augury. The story of Tanaquil, of Servius Tullius, and still more the contest between the elder Tarquin and Attus Naxios, added additional evidence of the peculiar nature of this Roman superstitious.

The institution of the college of augurs may be referred to the very earliest period of Roman history; for the assertion of Livy (v. 18, and iv. 4), that there were no augurs in the reign of Romulus, is not merely opposed to the general tenor of the history of Rome, but directly contradicted by Cicero, in his De Legibus, (lib. ii. cap. 83), in which he says there were no augurs in the time of Romulus. It has been said, and it is generally believed, that the college was again differently reported. Cicero himself was an augur, says that Romulus associated three others with himself, and that Numa added two. (Idem 14.) Livy reports that in the opinion of the augurs of the time, the number of the college was related to the number of the people and tribes, and that consequently there must have been at the beginning at three or six; so that each of the three tribes should have either one or two augurs. On the other hand we shall see that, according to the ancient laws, Rome that, prior to the completion of the augurs, were the supposed number of the college, as recommended to the senators, to fill up the vacancy in any of the thirty-five tribes chosen by lot should, by a majority of the votes of the said seventeen tribes, nominate a successor, and if there should be the same number chosen, the elder in the election of the chief pontiff, and therefore, most probably, that of the other priests. (Deus, liv. 33.) We have already seen that the emperor had the privilege of nominating augurs and determining their number.

The college and superintendence which thus constituted the supposed science of the augurs would be tedious to enumerate; but that which especially characterized the augural office was the peculiar power of ascertaining the will of the gods, not only by means selected from the superior science of augury, but from the many several arts, which was exercised at some elevated spot, on which he set with his head veiled and his face turned towards some place...
cular quarter of the heavens, varying perhaps according to the occasion; for the accounts differ so much that, while Livy says it was the east, we have the authority of Varro for the south, and Pliny for the west. Then the augur, with the help of his crook, free from knots, called a lituus, marked off a certain portion of the heavens and of the earth, within which his observations were to be made, and again divided this portion into two parts—the right and left—and gave the auspices on the augury of the auspices, called a templum, and the steadfast observation of the augur directed upon it may probably account for the meaning of the Latin word con-tempula-riri, to contemplate, which has been adopted into our own language. The gods then signified their approbation by raising their right hand to the left, and the augury was complete. For some purposes the whole circumference of the heavens, together with the corresponding parts of the earth, were divided, according to their longitude and latitude, into twelve parts, and others parallel to these. (Liv. i. 18, Dionys. ii. 70, and the appendix to the translation of Niebulur, vol. ii.) So prominent a place did the feathery creation hold as the interpreters of the divine will, that not, the Latin for bird, is the chief element in the term augur, as it is also in the nearly equivalent word auspex (auspex). In the latter, the second syllable is deduced from spec, look, so that the word signifies bird-watcher. The second element of the word augur does not appear as a separate English word; it resembles in the Latin language. We have called the terms nearly equivalent, and if Plutarch's authority had been sufficient (Romana. c. 72), we might have dropped the qualifying adverb. But a Roman antiquary would have pointed out many examples of the use of imperfect forms, inasmuch as these is, that the leading magistrates of Rome possessed the auspices (Cic. De Leg. iii. 3) by virtue of their office, while the term augurium never refers to any other than an augur. The name auspex does not appear to have been in early times a technical word, and indeed was but rarely employed; but the derivatives from it were frequently used, and applied with considerable latitude to the augurs as well as to the magistrates. The objects of the auspices and augurium were, to some extent, similar; but there was a difference. The former was intended to designate men of a similar nature. Moreover, all legal disputes about the auspices of the magistrates seem to have been referred to the augurs. Under all these circumstances we shall not attempt to draw a very nice line between them.

There were, as we have already stated, besides the movements of birds, a variety of other occurrences in the physical world which, as expressive of the will of heaven, came under the enunciation of the auspices. We shall not attempt to catalogue them here, for the formation of man may take; but absurd as these forms may have been, the political power of the auspices was most substantial. The election of a king, a consul, a dictator, a praetor, a censors, the Senate, the Sibyl, the flamenc, &c., were all void unless the auspices were favourable. A general could not cross the pomerium, or sacred boundary of Rome, the frontier of the state, or even a river, without the sanction of his birds. To engage an enemy in defiance of these interpreters of the will of heaven was to entail present or future defeat. In the assignment of public lands the science of the augur was required to mark out the different allotments. Among the patricians, the presence of an augur became a legal object to render valid many of the proceedings of private life, as marriage and adoption; and the same political body found in the auspices a powerful argument against the rising claims of the plebeians. The auspices, they said, were their peculiar privilege, and as such they could not be abridged; without such divine assistance, there was an insuperable bar to the election of plebeians. Of the three comitia, or legislative assemblies, that of the curiae, being the special assembly of the patricians, was of course subject to the auspices, and the same body ordaining the qualifications of the centuries; but that of the tribes was free from such control. Of the two last (for the comitia curiata became obsolete) the assembly of the centuries was the most important, and hierarchically above the assembly of the tribes; and so complete was the veto of an augur in this assembly, that if he but heard a clap of thunder, nay, if he but saw and he had heard one, and that falsely, the proceedings of the assembly were void. Such was the power of the augurs. And it is strengthened by the law that a man once created an augur was an augur for life, no matter what crimes he might commit. (Plin. Ep. iv. 8; Plutarch, Romana, 97.) On the pecuniary advantages of the office there are no very definite statements. That they received money in some shape from the public treasury is indeed a widely stated fact. (Liv. iii. 5.) But it is also said that Cæsar has made a bad pun at their expense, charging them with extracting aurum (gold) from the aureus (ears) of those who believed in them; and the public money may perhaps be traced in the buildings of the temple. But this was not the popular election, which were celebrated in the annals of Roman antiquity. (Verg. Ecl. ad Fam. vii. 16; Varro, R. R. iii. 6; Plin. H. N. x. 23.) In the latter years of the republic many of the duties of the augurs were performed in the most lax manner. At the age of twenty, of the nunciature, or the auspices, for speaking of his own time, the ceremony is a mere shadow of what it was. The candidate takes his seat, rises, repeats a set prayer in the open air, an augur then declares he hears thunder on the left, when in fact there is none, and the candidate forthwith enters upon his magistracy.

AUGUST. The month of August was originally called Sextiliis, being the sixth month in the Alban or Latin calendar; and this name, as is stated, it retained in the calendars of Romulus, Numa Pompilius, and Julius Caesar. Since Numa's reform, however, it has held only the eighth place in the series of months. In the Alban calendar, Sextiliis consisted of twenty-eight days; in that of Romulus, twenty-nine; in that of Numa, thirty; in that of Augustus, thirty-one, and Caesar restored it to thirty; and Augustus Caesar, from whom it derived its new name of August, extended the number of days to thirty-one, which has continued ever since. It was originally proposed that September should bear the name of Augustus, but for the reasons which influenced the decree of the Senate detailed in Macrobius, in his Saturnalia (edit. Bipont. i. 261), viz., that since it was in this month that the Emperor Caesar Augustus had entered upon his first consulship—had celebrated three triumphs in the city—had received the allegiance of the soldiers who had been enrolled under him, and had himself invaded and brought to civil war—it appeared that it was, and had been, proper to the empire; and the Senate therefore ordained that Sextiliis should henceforward bear the name of Augustus.

Gassendi; (Kalend. Romanum, apud Graev. viii., col. 164) says that Commodus wished to have had the month Sextiliis called by his own name.

The Flemings and Germans have adopted the word August for Harvest; Ougst maand is the harvest-month. (Cf. Cervantes, Don Quar. 3, 30, 76, 82.) Mr. Junius remarks that if the processus of man may take; but absurd as these forms may have been, the political power of the auspices was most substantial. The election of a king, a consul, a dictator, a praetor, a censor, a plebeian curule, the decision of the Sibyl; the Sibyl's prediction; the Flamens, &c., were all void unless the auspices were favourable. A general could not cross the pomerium, or sacred boundary of Rome, the frontier of the state, or even a river, without the sanction of his birds. To engage an enemy in defiance of these interpreters of the will of heaven was to entail present or future defeat. In the assignment of public lands the science of the augur was required to mark out the different allotments. Among the patricians, the presence of an augur became a legal object to render valid many of the proceedings of private life, as marriage and adoption; and the same political body found in the auspices a powerful argument against the rising claims of the plebeians. The auspices, they said, were their peculiar privilege, and as such they could not be abridged; without such divine assistance, there was an insuperable bar to the election of plebeians. Of the three comitia, or legislative assemblies, that of the curiae, being the special assembly of the patricians, was of course subject to the auspices, and the same body ordaining the qualifications of the centuries; but that of the tribes was free from such control. Of the two last (for the comitia curiata became obsolete) the assembly of the centuries was the most important, and hierarchically above the assembly of the tribes; and so complete was the veto of an augur in this assembly, that if he but heard a clap of thunder, nay, if he but saw and he had heard one, and that falsely, the proceedings of the assembly were void. Such was the power of the augurs. And it is strengthened by the law that a man once created an augur was an augur for life, no matter how...
now Augs-burg, sometimes written Augsburg; Caesar-Augusta, now Bar-rogus. Nearly similar to these is Augusto dunum, formerly Bibere, the capital of the Augusti, and now a town with 8000 inhabitants, as in Augusta Verona and Augusta Asturica, now Astorga. The Greek cities pursued the same course of flattery in the use of the equivalent Greek term Sebast. Thus we find a Sebast in Phrygia (see Hist of Coele-Syria). The idea of the city and the emperor is the same as in the case of the Tescagges, probably no other than Amyntor, which was intimately connected with Augustus (Coin); Sebastopolis in the district of Pontus, called Phanauros (Brahe), and Sebasto or Sebast, on the upper streams of the Danube, were cities of the late Augustus. Sebastopolis is navigable from its mouth up to Augusta, for vessels of 100 tons. There is at Augusta a fine bridge across the Kameboe. The population of Augusta was 3,990 in 1830, but must have increased since then. (American Almanac for 1832.)

AUGUSTA, a town of Maine in the U.S. on the river Kennebec, 56 miles N.E. of Portland, in 44° 17' N. lat. and 69° 59' W. long. It is a thriving town, and has, by an act of the state legislature, been made the seat of the state general court. It contains three churches, called the Medical College of Georgia, with six professors; a college under the direction of Methodists, with six instructors, sixty alumni, seventy-five students, and a library of 5,000 volumes; a city hall, a county jail, and a hospital, and is a place of public worship. There was a great fire in April, 1829, which destroyed a considerable part of the town. Augusta is ninety miles by the road from Milledgeville, the seat of the state government of Georgia. (Stuart’s Three Years in North America, 1834.)

AUGUSTA HISTORIA, the name given to a series of Roman historians, or rather biographers, who wrote the lives of the Emperors from the accession of Hadrian to the death of Carus, the immediate predecessor of Diocletian; these lives comprise a period of 167 years of the history of the Roman Empire. They may be considered as a continuation of Suetonius’s Twelve Caesars, except that between Domitian the last in Suetonius, and Hadrian the first in the Augustan his first biographical work, the intervening years are not included in either of the two series. We know from Lampadius that four historians had written Trajan’s biography, Marcus Maximus, Fabius Marcellinus, Aurelius Verus, and Sextus Severus; all of whom we afterwards hear of.

The writers generally included in the collections of the Historia Augusta are six in number; they lived under Diocletian and his successors Constantine and Constantius. They are: 1. Albus Spartanus, who wrote the lives of Hadrian, and his colleague Albus Verus; of Decebalus, of Septimus Severus, Pescennius Niger, Antoninus Caracalla, and Antoninus Geta. Spartanus dedicated the first four to the emperor Diocletian, and he states in his life of Albus Verus, that his intention was to write the lives of all the emperors from the great dictator Julius Caesar, and of all those, whether they were the sons or relatives of the emperors, or were by them adopted, had received the title of Caesar. It appears from the beginning of his Life of Verus, that he lived under Carus, the last of the last before Hadrian, which however have been lost. 2. Julius Capitolesinus is the second writer in the series. He wrote the lives of Antoninus Pius, of Marcus Aurelius, and of the second Verus. These he dedicated to Diocletian. He also wrote the Life of Caracalla, of Decebalus, of all the two Maximini, of the three Gordians, and of Maximinus and Balbinus. He appears to have written also others, which are lost. 3. Elbus Lampadius, to whom are attributed the lives of Commodus, Antoninus Pius, and Caracalla. Of his two last are dedicated to Constantine. There are, however, considerable doubts whether some, if not the whole of these, should be attributed to Spartanus; and both G. Voss and Feberbrum seem to think it not unlikely that Albus Spartanus and Elbus Lampadius are one and the same man. (See literary notices prefixed to the Bipont edition of the Historia Augusta.) 4. Valentinus Gallicanus, a senator of Rome, of whom we have only the life of Avitus Casinus, his father. 5. Antiphonius, who has fragments of his lives of Valerian, and his son Valerian the younger, the lives of the two Gallici, and those of the Thirty Tyrants, who assumed in various parts of the empire the power and the title of Augustus, during the period of Diocletian and Constantine. He was born of a noble family in two of these, Trebellius Pollio has reckoned two women, the famous Zenobia of Palmyra, and one Victoria. He has also written the life of Flavius Claudius, one of the ablest and best emperors of Rome, whose reign was however too short for the duration of the day, and who was destined to succeed his. 6. Flavius Vopiscus of Syracuse. He lived under Constantine, and wrote the lives of Aurelian, of Tacitus, and his brother Florianus, of Probus, of the four tyrants, Firmus, Saturninus, Probus, and Constantine. Both in general the Historia Augusta consists of the Roman writers above-mentioned. Claudius Eutusenius wrote the lives of Diocletian, Maximinus Herculeus, Constantinus, and Valentinus, and has been called Historiarius Augustae, had they not been lost. There is a break in the Historia Augusta occasioned by the lives of Philippus, Decius, and Gallus, which are wanting. (Fabric. Bibliotheca Latina; Voos, de Historiae Latina; and the notes prefixed to the Bipont edition.)

AUGUSTIN, St., Bishop of Hippo, also called AULIUS AUGUSTINUS, one of the fathers of the church, was born, as he himself informs us (Epist. 327), at Tagaste, a small town of Africa, in the inland part of Numidia, of a family of the name of Augostin in the 13th, A.D. 384 (Acta Sanct. Augusti, tom. vii. pp. 217, 353; Tillemont, Ann. xiii. 2.) His father’s name was Patricius, and his mother Monica was a woman distinguished for her piety. At the beginning of his treatise De Beata Vite, Augustin speaks of his son named Adeodatus, and of his brother Navigius; and in his 109th epistle, of a sister who died an abbess. He prosecuted his studies in his earlier years, first at Tagaste, then at Madaura, and latterly at Carthage, where his close attachment to his predecessor, St. Novatus, a.D. 371, the fruit of a criminal connexion. The perusal of Cicerio’s Hortensius, about the year 373, first detached him from his immoral habits; and, about the same time, he entered into a holy conversation with the hermit Rusticana; but, for a short period, a zealous and able defender of his opinions. Chalmeric, from Bailleau, says, one thing gave him uneasiness in the perusal of Cicerio’s work, and that was not finding the name of Jesus, which had been familiar from infancy to him, in the writings of the emperors of Rome. He resolved therefore to read the Holy Scriptures; but the pride of his heart, and his incapacity to taste their simple beauty, made him still give the preference to Cicero. In the mean time he acquired fame as a rhetorician, and taught eloquence successively at Tagaste, Carthage, Rome, and Milan. At Rome he left the Mathematicians, and joined, for a short time, as he himself informs us, the sect of the Academicus. (De Haet. Virg., tom. i. 211) He returned to Milan, a.D. 384, where he lived in that time, until his name, whose merits added to the tears and entreaties of his mother Monica, a.d. 385, suffered Augustin’s entire conversion. He was accordingly baptized by St. Ambrose in the early part of the year 387, and a short time after by Eusebius Africanus. Augustin says in his letter A.D. 396, having, previous to his baptism, written his work De Immortalitate Animae. Soon after this, Monica his mother died at Ostia Tiberna. (See Confer. lib. x. c. 10.) He now renounced his rhetorical pursuits, and devoted himself to the study of the scriptures. At Rome he was frequently setting for near three years at Tagaste, where he wrote several of his works.

Being at Hippo, Valerius, then bishop of that diocese, ordained him a priest early in 391; and at a council held in 393, he desired the bishops, as a defence of the faith, that the bishops who composed it were
unanimously of opinion that he should be chosen one of their number. In 293 he became confessor to Valerianus, and was posted as an Augustinian in the position of Hippo. He appears to have established about this time a kind of clerical community within his episcopal residence; and was still active in his opposition, not only to the heresies of the Manichæans, but also to those of other sects. His \textit{De Cistente Dei}, is believed to have been begun a.d. 413. In 418, after the general council held at Carthage, he produced his two works against the Pelagians, \textit{De Gratia Christi}, and \textit{De Peccato Originale}, from a former of which he was cited in the Councils as \textit{Doctor of Grace.}. His labours were continued both personally and by his pen to the close of his life. His last work was his \textit{Confessiones.}

In the later part of his career, however, he had other enemies besides those of the church. The Vandals had entirely overrun Africa, and passed even into Spain, and Augustine had now for his opponents the enemies of the empire. Carthage and Hippo made resistance for a considerable time; and St. Augustine, though pressed by his associates, refused to quit his flock and escape by flight. Still he saw the imminent danger to which Hippo was exposed; and dreaming that it would fall into the hands of the enemy, prayed God that before that calamity happened to the city, the people of the city should be warned. It seem he was answered, as he died during the third month of the year, Augustine, 28th, a.d. 430, at the age of 76. (Victor Vitaeus, Episc. Hist. Persec. Vandaliae, s. v. Paris, 1694, p. 112.) The Vandals, who had taken Hippo the year before, did not think it prudent to make his body, his writings, and his library. Victor Vitaeus (Hist. Persec. ut suprà, p. 6) says his library contained at that time three hundred and thirty-two separate books, or treatises, on theological subjects, besides an exposition of the Psalms and the Gospels, and an innumerable quantity of homilies and epistles. The Catholic bishops of Africa carried his body to the island of Sardinia, the place to which they were driven by Thrasamond, King of the Vandals, a.d. 409; and Luippard, King of the Vandals, in a.d. 414, was compelled to give Sardinia, a.d. 721, from Sardinia to Pavia (Borowi Annalac, fol. LXXXII, 1738-54, tom. xii, p. 230.) An account of the supposed discovery of his relics, at a later time, will be found in Montfaucon's \textit{Dictionnaire Historique,} 4 to. Paris, 1709, pp. 29, 27; see also Muratori, \textit{Antiq. Ital. Mediae Aevi,} tom. v. fol. Milan, 1741, dissert. viii. p. 9.

St. Augustine's works, as the reader will have gathered from the preceding account of him, were numerous, and have been printed in a collected form repeatedly; at Paris, in 10 vols. fol. 1632; by Erasmus, from Frobenius's press, 10 vols. fol. 1640; by the divines of Louvain, 10 toms. fol. 1686; and by the Benedictines of the congregration of S. Gallen, vol. I. Paris, 1679-1700; 10 vols. fol. Paris, 1686-1703; and 15 vols. fol. Paris, 1700-1703.

The reader who is desirous to become acquainted with the detached titles of St. Augustine's works, may consult the \textit{Index Librorum omnium,} by his friend and colleague Prædicatorum, \textit{Ordo S. Augustini,} printed for the month of August, a. d. vi. pp. 441-460, with annotations; and the same work, pp. 353-357, for the progressive years of the production of the greater part. Some of St. Augustine's works are among the earliest specimens of typography known in our libraries. The \textit{Libcr de Arte Pro-}
demusa was printed by Fust at Mentz, in folio, before 1466, and another edition appeared in that very year from the press of Mentelium. The first edition of the treatise \textit{De Cistente Dei}, by Sixtus and Pernatius in the University of Subacco, fol. 1467; and another of \textit{De Vitæ Christi}, and \textit{De Singularitate Clericorum}, in the same year, by Olric Zell, at Hanau, in 4to.

The characteristic of Augustine, says Chalmers, has been depreciated by some modern writers, and ought undeniably to be considered with a reference to the times to which he lived, and the state of learning and religion. There is neither wisdom nor candour, however, in collecting and publishing the tracts of his early years, nor in denying that he may justly be ranked among the most extravagant and ungodly of ages who preserved and elucidated many of those doctrines which are held sacred in days of more light and knowledge.

The following is the character of him which has been given by the famous Augustinian Bishop of Hippo, filled the whole Christian world with joy and not without reason, as a variety of great and shining qualities were united in the character of that illustrious man. A sublime genius, an uninterrupted and seamless pursuit of truth, an invincible constancy in the resistance of heresies, and piety, and a subtle and lively wit, conspired to establish his fame upon the most lasting foundations. It is, however, certain that the accuracy and solidity of his judgments, and the variety of his talents now mentioned; and that, upon many points, he was more guided by the violent impulse of a warm imagination than by the cool dictates of reason and prudence. Hence that ambiguity which appears in his writings, and the truth that he has sometimes been justly charged with uncertainty with respect to his real sentiments; and hence also the just complaints which many have made of the contradictions that are so frequent in his works, and of the levity and precipitation with which he set himself to write, and of the various subjects he treated them with a sufficient degree of attention and diligence.

A Life of St. Augustine, the first part written by himself, in the first ten books of his \textit{Confessiones,} was published in English, 8vo. Lond. 1660; but a far more elaborate work, in Latin, is appended to the Benedictine editions of his works; and an account of his life and controversies fills the 12th volume of the \textit{Memores pour servir à l'Historie Eclectistique,} by M. Lenain ou Tillomont, 4to. Paris, 1708.

The second part of his life and history, as much as relates to his connexion with the Manichæans, will be found in Lardner's \textit{Credibility of the Gospel History,} part ii. vol. vi. pp. 55, 59, and again part ii. vol. x. pp. 199-203. The value of Augustine's works may also be estimated by the testimony of the testimonial, \textit{De Vita et Opere B. Augustini,} written by Lardner, and drawn from them. The more antient lives, however, from which the chief facts of the preceding account have been derived, will be found in the 6th volume for the month of August of the \textit{Acta Sanctorum,} which was recently edited:—Vita D. Aur. Augustini Episcopi Hippopotami, \textit{acto incerto,} etc. qui est in antiquo codice quatuor primi moenum (edit. Andr. Gul. Cratmer, 4to. Kiliana in Librelin Universitatis, 1655.}

\textbf{AUGUSTIN (ST.) CANONS OF THE ORDER OF, usually called AUSTIN CANONS. Regular Canons, says Bishop Tanner (Pref. to Notiti. Monast.), were such as lived under some rule: they were a less strict sort of religious than the monks, but lived together under one roof, had a common dormitory and refectory, and were obliged to observe the ten commandments of God.}

The chief rule for these canons was that of St. Augustine, who was made Bishop of Hippo, a.d. 395. But they were little known till the tenth or eleventh century, were not inserted into the Rule of St. Benedict, not having obtained the name of Augustin or Austin Canons till some years after. (Bingham, \textit{Antiq. of the Christ. Church,} b. vii. c. 2. s. 9.)

\textbf{Bale (Scrip. cent. xiii. 4) and Sir Robert Atkyns (Antiq. of Glos, p. 1) say, that these canons were brought into England by St. Birinus in the beginning of the seventh century; a.d. 630 or 640, as Fuller states in his Church History (b. vi. p. 268); but those were certainly secular canons, whose bishop placed them in Oxfordshire; and other historians agree that we have no evidence here till the eleventh, or probably till the twelfth century. For though they differ about the place of their first settlement, yet the general opinion is, that they came in after the time of King Henry I. He was the first to make provision for Austin Canons under a rule, according to Fuller (Ch. Hist. ut supr.), says, they were settled in London, a.d. 1059; but this is not believed. Somner says that St. Gregory's in Canterbury, which was built by archbishop Lanfranc a.d. 1084, was their first house (Antiq. Archb. p. 89) that Archbishop Lanfranc placed secular canons at St. Gregory's, and that Archbishop Corby changed them into regulars, makes the authority of that judicious anti-quoter in this case doubtful. Jocelyn says (Apolog. Brev. Lond. 157) that they were first bred there, and by Athelwalbus or Adalbus, confessor to King Henry I.
and had their first house at Nastell in Yorkshire; but they seem not to have been settled there till Thurlstan was archbishop of York, and that was not till 1114. Thurlstan was not the first canon of the Cathedral, for in the order, A.D. 1109, (See also Bishop Bower in his Histoire of the Cathedral of St. Edmund, v. 1. p. 34.) Stowe says (Surr. of London, p. 293) that Norman was the first canon regular in England, and that religious were first seated at the Holy Trinity, or Christ Church within Aldgate, London, A.D. 1109. But it does not seem to have been the see of an archbishop of London; whereas the house of these canons at Colchester was founded before the death of Bishop Maurice his predecessor, which happened Sept. 28, 1107. (Godwin de Preval, p. 175; N. i. 1. Ecol. vol. i. p. 10.) Another theorist, Bishop Tanner thinks that John Rossa (Mon. Angl. new edit. vol. vi. p. 602) and Pope Paschal II. (Tibald. p. 106) are right in placing them first at Colchester, though it could not be in Rossa's year, 1109, but was rather A.D. 1105. (See C. H. J. H. Hist. vol. vi. p. 292) places the coming of these canons into England.

Stevens tells us, in his Continuation of Dugdale (vol. ii. p. 65), that though there were regular canons who embraced the rule of St. Austin, taken from his 109th epistle, in the eleventh century (as particularly at the Abbey of St. Denis, at Rheims, about A.D. 1067), yet the regular canons did not make solemn vows till the twelfth century; and did not, in general, take the name of regular canons of St. Austin. Jonathan, who, in the Lateran Council, A.D. 1119, that all regular canons should submit to that rule of St. Austin in his 109th epistle. So that these regular canons certainly fall short of the time of their pretended founder; and therefore when black or regular canons are mentioned with a journey to the count of Flanders, we understand secular canons: for it was usual in those days to call the secular canons of cathedral and collegiate churches 'canonici regulares,' to distinguish them from the common parochial clergy, though probably many of those societies might become Austin canons afterwards.

Their habit was a long black cassock, with a white rochet over it, and over that a black cloak and hood. The monks were always shaved, but these canons were beards, and caps often hung in their eyes.

Tanner says he found above 175 houses of these canons and canonsesses in England and Wales. But besides the common and general sort of these canons there were also the following particular sorts:—1. Such as were observed St. Austin's rule according to the regulations of St. Nicholas of Arrosia (see Stevens's Contin. of Monast., vol. ii. p. 149, from Hist. des Ordres. Mon. tom. ii. p. 106; Acta Sanctorum, Jan. 13, and Regyn. i. p. 159), as those of Elbech in Dorset, of Netherhall, in the shires of Hertfordshire, Hertford; in Devonshire; Brunne in Lincolnshire; and Lilleshall, in Shropshire: 2. Some of the rule of St. Austin and the order of St. Victor; of which the monks, with the exposition of Hugh de St. Victor, as at Keynsham and Worsnop, in Somercote, and Wormeseley, in Herefordshire. Fuller (Ch. Hist. vi. p. 325) says St. Austin's, Bristol, was of the order of St. Victor; 3. Of the order of St. Austin, and the institution of St. Mary of Mervtune, as at Buckenham, in Norfolk; 4. Premonstratensians, or canons who lived according to the rule of St. Austin, reformed by St. Norbert. Archbishop of Magdeburg, who resided at Elbech, and afterwards, in the diocese of Laon in Picardy, a place so called because pointed out, as it is said, by the blessed Virgin to be the head of this reformed order. (Mon. Angl. new edit. p. 373; Pass. Mon. p. 139; Collier, Ch. Hist. i. p. 337.) They were brought into England by a fit A.D. 1140. It is reckoned that in England this order had about thirty-five houses.

The above particulars have been in part taken from Bede, but have been augmented by the Notitia Monastica, and the Introductory History of the Augustin Order in the new edition of Dugdale's Monastice, vol. vi. pp. 37-49. For more extended information, the Histore des Ordres Monastiques, quoted by Stevens, may be consulted; and, for the most part, the customs of this order in England, King's College, a British Museum, where the ms. is deposited.
bishop, and metropolitan of the English nation, by the archbishop of that place; after which, returning into Bedford, he ordained the presbyter and Peter the monk to Rome, to acquaint that see with the state of his mission, and to desire his solution of certain questions, which Bede (l. c. 27) has reported at length in the form of interrogatories and answers. Some of these points savour very strongly of the monastic spirit; but others lead to information respecting the early constitution of the Church. To his inquiries concerning the maintenance of the clergy, Gregory answered that the donations made to the church were, by the custom of the Romans, subject to taxation; for this reason, and for the maintenance and support of a monastery, with respect to the diversities of customs and liturgies, Gregory’s answer was truly liberal, implying that Augustine was not bound to follow the precedent of Rome, but might select whatever parts or rules appeared the most eligible or best adapted to promote the party of the church of England, and might compose them into a system for its use. Gregory also, at Augustine’s request, sent over more missionaries, and directed him to constitute a bishop at Canterbury, and after visiting the island, to select such bishops in such a manner, that Augustine of Canterbury should be metropolitan of all England. He sent over also a valuable present of books, vestments, sacred tonsures, and holy relics. He advised Augustine not to destroy the heathen temples, but to use them as Christian churches, and images of the gods to serve as images of Christ, and so gradually convert them into Christian churches, not only to save the expense of building new ones, but that the people might be more easily prevailed upon to frequent those places of worship to which they had been accustomed. He directed him, further, to accommodate the ceremonies of the Christian worship, as much as possible, to those of the heathen, that the people might not be too much startled at the change, and, in like manner, to allow the heathen converts, on certain festivals, to kill and eat a great number of oxen, to the glory of God, as they had formerly done to the honour of the devil. It is quite unnecessary to offer any remark on this mixture of pious zeal and worldly policy. Gregory, moreover, cautioned Augustine not to be puffed up with the miracles which he was enabled to work in confirmation of his ministry. (Compare Bede, l. c. 29, 31.)

Augustine having fixed his see at Canterbury, dedicated a church which had been built in earlier times by some Roman Christians to the honour of our Saviour; and King Ethelbert founded an abbey, dedicated to St. Peter and St. Paul, since called St. Augustine’s. (Ibid. c. 33.) The monks who had been left in England now saw an opportunity to establish a monastic house in the island; and, as a necessary step, to gain over the British, that is, the Welsh bishops, to his opinion. For this purpose a church was built in Westoe, and a place since called Augustine’s Oak, where the archbishop endeavoured to persuade the British prelates to make one communion, and assist in preaching to the unconverted Saxons. But neither this nor a second conference was successful; and Augustine as said to have threatened the Britons with a terrible calamity, as a punishment of their disobedience, which accordingly fell upon them in the shape of war (see Bede, l. i. c. 3). A.D. 593, after Augustine’s death, when Ethelbert was dead, his son, Ethelberht, Marchwarden, marched with an army to Caerleon, and when near twelve hundred monks of Bangor were put to the sword.

In the year 604, Augustine consecrated two of his companions, Mellitus and Justus, the former to the see of London, the latter to that of Canterbury (ibid. c. 3). In the same year he died at Canterbury, May 26th (Wharton, Angl. Secre., i. 91), and was buried in the churchyard of the monastery which goes by his name; the cathedral being not yet built. But after the consecration of that church his body was taken down from its position in the north porch, and deposited in a deep grave, where it lay till A.D. 1691, when it was removed and placed in the church by Wido, Abbot of Canterbury (Thorn. Suppl. x. col. 1793).

The observation of the festival of St. Augustine was first enjoined in a Syriac edict under Guthbert, archbishop of Canterbury (Gervase, Act. Pontif. Cantuar. Scrit., x. col. 1641), and afterwards by the Pope’s bull in the reign of Edward III. (Thorn. col. 2119.)


AUGUSTINE, ST., a town and sea-port of East Florida, in the United States, situated on a bay of the Atlantic, two miles within the bar, which is very shallow, 310 miles S. of Charleston, and 30 miles S. of the mouth of the St. John’s river; 29° 48’ N. lat., and 81° 33’ W. long. The town is oblong, and consists of four principal streets. The houses are built of stones formed by the accretion of shells along the coast of Anastasia Island. It has a fort with thirty-six guns on it. In 1821, when Florida was ceded by Spain to the United States, St. Augustine reckoned 2500 inhabitants; but it has since been in a state of decay. The country around produces very fine oranges, and good crops of rice, indigo, and cotton. (Encyclopaedia Americana; and Bartram’s Florida.)

AUGUSTOVO, the most northern voyvodship (a term derived from the Slavonian word ‘voy,’ or ‘voi, troops, and ‘vod,’ as ‘voda,’ to lead) of Russian Poland. On the partition of Poland it was merged in Eastern Prussia; in the time of Napoleon it became part of the department of Lomza in the duchy of Warsaw; and upon its transfer to Russia, in 1815, it was formed into a separate voyvodship or county. The line of its boundary is a continuation of the line which separates it from the Russian provinces of Vilna and Grodno, follows the course of the Niemen, Bobr, and Narw; in the southeast it joins the Russian province of Bialystock, and on the south, the voyvodship of Plock; on the west it is wholly bounded by Eastern Prussia. The length of this voyvodeship is 260 versts (about 170 miles), and it is 100 versts (about 65 miles) in its greatest breadth. Its area is about 7000 geographical square miles; it lies between the 52d and 62d degrees of north latitude, is divided into five counties, and 153 parishes, and contains 47 towns, the chief of which are Suvalky, the capital, Augustovo (from which its name is derived), Stabin, Pressn, Novogrod, Lomza, Zambrov, and Staropol, 4470 villages, and 35,999,000 acres, of which 69,000 are meadows and 1,673,000 acres, of which are alluvial, and 8,000,000 are forested, of which 2,000,000 are being full of linden-trees, whence the celebrated ‘ Lindenhoney.’ The northern districts of Augustovo form an extensive plain, and the soil being fertile and well cultivated produces a fine description of wheat, the most of the 120,000 grown in the southern districts, which are watered by the Narw. Of the whole surface of the voyvodeship about three-tenths consist of arable land, and four-tenths are occupied by woods and forests: the quantity of unproductive arable land is about 1,300,000, of which 650,000 are for gardens, pastures, highways, and buildings, and does not exceed one-fifth of that surface.

The town of Augustovo is on marshy ground at the southern extremity of lake Stabroek, out of which the Netta flows, and at a distance of 164 versts (110 miles) N.E. of Warsaw. It was founded by Sigismund Augustus, king of Poland, in the year 1560; it is fortified, contains two churches, an hospital, and about 3600 inhabitants, and is a large fair for horses, cattle, and salt. A canal with seventeen sluices is in process of being excavated near the town for the purpose of uniting the Vistula, by means of the Narw and Bug, with the Niemen: a second canal will form a junction between the Niemen and the Vistula, and connect the sea with the mouth of the Duna in the Baltic. Augustovo is in 53° 40’ N. lat., and 22° 58’ E. long.
AUGUSTULUS, the last emperor of the western portion of the falling empire of Rome, was the son of Orestes, a Pannonian of birth and wealth, who stood high in the favour of Atius, Afterwards secretary of state, and in his death, entering the Roman service, rose, step by step, to the highest dignities by favour of the Emperor Julius Nepos. He rewarded his patron by stirring to mutiny the barbarian confederates or troops in the pay of Rome. Nepos died, and Orestes was offered the vacant throne for himself, established his son upon it. This youth, who bore the lofty name of Romulus Augustus, possessed no qualities to distinguish him except personal beauty; and his character is aptly expressed in the character of his name, Augustus, by which he is universally designated. Within a year Orestes fell, as he had risen, by the army. He offended the licentious barbarians by refusing to distribute among them a third part of the lands of Italy; and a less scrupulous leader appeared, Odoacer, the most barbarous of the military princes of the Ostrogoths, whom the emperor of the East, Justinian, was determined to select as his successor. Orestes was besieged in Pavia, taken, and put to death; the helpless and inexperienced Augustus yielded at once, and on his abdication was kindly treated by Odoacer, who allotted for his house the celebrated villa of Lucullus, on the promontory of Misenum, near Naples, with a pension of 6000 pieces of gold. The date commonly assigned to this extinction of the western empire is 476, but Gibbon appears to sanction 479. (Jornandes. Vet. Get. iv. 1.)

AUGUSTUS is properly only a title of honour which was conferred upon the first emperor of Rome, and afterwards adopted by his successors. The meaning of the word seems to have been sacred, as it appears to be derived from Augur, the priest who gave the sanction of the gods to the persons of the Roman magistrates (see Augus)—the analogy between the two words being precisely the same as that between robust (strength) and robustus (strong). The Greek writers interpreted the word by sebas (adorable), from sebas, adoration. (See the inscription on the coin of Arrius.) But though the title was common to the emperors of Rome, it is in history generally limited to the first who held it, and is almost looked upon as his proper name. For this reason it will be convenient to treat it as a sweet of that emperor under the present head, rather than under the names Octavius, Julius, or Cæsar.

AUGUSTUS. This extraordinary man was the son of C. Octavius, and Atia. Atia was the daughter of M. Atius Balbus and Julia, the celebrated sister of the C. Julius Cæsar, who was consequently the great uncle of Augustus. The Atii were particularly connected with the town of Aricia and had given many senators to Rome, so that the antiquity of the family afforded a pretext to Vitellius for tracing them from Atius, the friend of young Aesculapius (Atius. v. 568). The Octavii, on the other side, were a wealthy family of Velitrae; but the first who obtained admission into the Roman senate, if we reject the inventions of Flavius, was the father of the emperor Augustus, or, as we ought at present to call him, Octavius, was born at Velitrae on the 22nd of September, a. d. 63, in the consulship of Cicero. In a. d. 60, his father was appointed as prior to succeed C. Antonius in the government of Macedonia. On his route thither he was further directed to subdue some insurgent slaves, the remnant of the bands of Spartacus and Catiline, who had made themselves masters of the district around Thurium, and from his success in this expedition, he gave to his infant son the name of Thurium. In Macedonia, Octavius conducted himself in a manner which was most favourably contrasted with that of his predecessor, and Cicero in his letters pointed him out as a pattern to his brother Quintus, who, at the same time, was the governor of Asia (Caecilius Vitellius. a. d. 15; Quintil. i. 1 and 2). Immediately after his return from his province, Octavius died, leaving behind him Octavius the elder by his first wife Anarchia, and Octavius the younger, together with the children of their marriage. In the year 46 a. d. we find him the object of Cæsar's regard, who, in his Avarus triumph, allowed him to share the military rewards given to his army, though he had not been present in the war. In the following year he was present with his great general, C. Julius Cæsar, near the battle of Pharsalus, after which he was sent to Apollonia, on the Adriatic, that he might employ the winter in study under Apollodorus of Pergamus, and at the same time be ready to accompany the dictator on his projected expeditions against Dacia and Parthia. Besides these marks of esteem, he had already, through the interest of Cæsar, been appointed pontifex (Vell. ii. 59), and had received the honour of patrician rank under the Cæsarian law. However, he had barely been at Apollonia six months when he heard of the murder of his benefactor, and this was soon followed by the information that he had been appointed his heir and adopted into the Julian family. He was only eighteen years of age, and his step-father, in his letters from Rome, strongly recommended

[ Brit. Mus. Gold. Double the actual diameter.]

(Obverse.)

him to keep away from public affairs; yet, after a little hesitation, he crossed over to Italy with his friend Vitellius and Agrippa, and was most favourably received by the legions at Brundisium. On the 18th of April he had already reached Naples (Cic. de Att. xiv. 10), and two or three days after, Cicero saw him at the house of his step-father, Antony at this period was beginning to lay aside the hesitation which marked his conduct in the first spurs of the idea of March, and for the arrival of young Octavius, the two parties would probably soon have brought the dispute to some decided issue. But the appearance of Octavius on the scene was the commencement of a series of intrigues which even the historian has found it difficult to unravel. The connexion of Octavius with his murdered benefactor might naturally have led to an alliance with Antony; while, on the other hand, the marriage of his mother with Philotus brought him at once into contact with the chief of the opposite party. In this difficult situation a boy of eighteen played his part in an art which baffled the prudence of the oldest statesmen of Rome. Already at Naples, he persuaded his mother to become the wife of Pompey, near his death, though that he was altogether devoted to his counsels, and yet by assuming the dreaded name of
Cæsar he threw out a hint which was well understood by the veterans and the people to whom that name was dear. Notwithstanding, Cæsar was absent at Rome than he appeared before. C. Antonius the praetor, and formally accepted the dangerous inheritance of the dictator's name and property, so that henceforward he was called C. Julius Caesar Octavius—the last epitaph being added to mark his previous congratulations. Having thus joined him, called him his birth into public life, we must leave to the historian the task of recording the annals of the world during the next fifty-eight years, in which the name of Cæsar or Augustus continued to express a paramount event of importance.

His private life may be briefly considered. A daughter of P. Servilius Isauricus was betrothed to him, but the marriage was not completed, when the troops, after the war of Mutina, and the reconciliation which soon followed, he had betrothed him to his co-religionist, called him his birth into public life, we must leave to the historian the task of recording the annals of the world during the next fifty-eight years, in which the name of Cæsar or Augustus continued to express a paramount event of importance.

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Augustus showed himself intolerant towards the Calvinists who had spread into Saxony and other parts of Germany, and between himself and the Lutheran party, bitterness at the time. He banished them from his dominions, and caused a creed of Lutheran orthodoxy to be drawn up, which was styled Formula Concordiae, and was accepted by three other Protestant electors of Germany.

In another respect the sway of Augustus was mild and beneficent. He respected the constitutions of his country, and consulted the assembly of the states on all important occasions, especially in the raising of subsidies. His laws and edicts were reduced to high esteem, and the laws and edicts of his cousin, John George, were also held in high esteem, and the laws and edicts of some of the Justinian of Saxony. He embellished Dresden, and built the fine palace of Augustengrund; and at the same time managed to leave the coffers of the state well filled at his death in 1586. He was succeeded by his son Christian.

AUGUSTUS II. This is the title by which the monarch is generally known who united the crown of Poland with the electorate of Saxony in 1690, although in Saxon histories he is more generally styled Frederick Augustus I. He was the second son of John George III., elector of Saxony, and was born at Dresden in 1670. Distinguished from his earliest age by great personal advantages, uniting beauty of figure with Herculaneum strength, Augustus improved these to the utmost by military campaigns, by treaty with France, and by a prolonged residence in its various courts. While at Vienna he formed a friendship with the future emperor, Joseph I. His father was somewhat mistrustful of the prosperity shown by his son to foreign powers and princes so hostile to the Protestant interest; and on the death of the old elector forbade his visiting Rome,—a vain precaution, as it afterwards proved. For similar reasons a jealousy existed between Augustus and his elder brother, who succeeded to the electorate, as John George IV. in 1680.

This prince dying in 1694, made way for Augustus, who showed himself severe towards his brother's mistresses and favourites. His first step was an alliance with Austria, as was afterwards the case with France; but as he refused to serve under Prince Louis of Baden, whom he commanded as Imperial General upon the Rhine, the court of Vienna entrusted him with an expedition against the Turks in Hungary. Here he showed more valour and observance than either good fortune or skill. But it is to be remembered, that the Turks were then at the very height of military fame, that they had not long before encamped under the walls of Vienna, and that Sobieski himself, who had driven them thence, had not been always subsequently successful. As the Turks afterwards gave the name of head-quarter to Charles XII., so they called Augustus the Iron-handed.

The death of the heroic Sobieski in 1696 left the throne of Poland open to the ambition of candidates. His son, James Sobieski, was thwarted in his hopes of succeeding to the royal heritage by the aversion and enmity of his mother. The elector of Bavaria, and the prince of Conti, both aspired to the throne of Augustus, and induced them to renounce their ambition by Count Przebodecki, one of the chief dominions of the kingdom, who promised that money would insure success. It is probable that the court of Vienna also urged him to the attempt, in order to prevent the crown of Poland from falling to the lot of Frederick prince. Augustus, through his able envoy, Count Fleming, lavished considerable sums at Warsaw: he thus obtained the advantage over his rival, who could but promise ten millions of florins, while Augustus paid them. The Protestant faith of the Elector of Saxony was still a serious matter. It was removed by a public recantation at Baden, near Vienna, on Whitsunday, 1797. He thus rendered it not only the religious creed of his native kingdom, but its interests and resources, to the acquisition of a foreign dukedom, and born to the tenth millions of florins. Augustus promised to support an army of 6000 men at the cost of Saxony, and to recover Kamminett, Wallisch, Moldavia, and the Crimea.

Notwithstanding these promises, the great majority of electors, in a body, held the crown and offered it to the princes of the house of Conti. The minority, however, proceeded to proclaim Augustus, who entered Poland at the head of 8000 Saxons; while the prince of Conti, being invited, promised to return. To defend himself, he entered Cracow in a dress valued at a million of florins. In the early part of 1696 he succeeded in establishing himself.
self almost the undisputed monarch of Poland: France and Sweden alone refused to recognize him.

The first aim of the new monarch was to keep his promise of recovering for Poland its lost possessions of Podolia, the Ukraine, and Kamieniec. War, conquest, the foundation of alliances were now the anime, it seems, of the favourite dreams of Augustus. He aimed in every respect at being the Louis XIV. of the North: but it was his fate to meet with as formidable rivals, and even more fatal returns, than the French monarch. He commenced by concluding a truce with Gustavus of Sweden, who had invited the hostility of Sweden, and then marched with an army of Saxons and Poles to drive the Turks from Kamieniec.

While proceeding on this expedition, the Polish monarch met his new Peter, and learnt of the Great in France, but returning from his travels with all the picturesque projects that were to procure him this title. The bold, frank, ambitious, yet uncrafty Augustus was the ally most suitable to Peter's views: a close alliance was concluded between them, and a scheme of conquest, at the expense of Sweden, was projected. Augustus then continued his march against the Turks. Dissensions soon after broke out in his camp between the Poles and Saxons, and would have terminated in combat, but for the interference of a Lithuanian regiment; but his alliance with Russia enabled him to conclude the Treaty of Carlowitz, by which most of the territories which he sought to recover were ceded to Poland.

In the treaty thus concluded, the allied monarchs proceeded to the completion of their projects against Sweden.

This kingdom, under the rule of an infant prince, seemed likely to offer no formidable resistance; and to detach Livonia from it struck Augustus as an easy task, more especially as Pathki, a refugee Lithuanian, promised faith to his countrymen in support of the Saxon cause. Augustus accordingly invaded Livonia, and laid siege to Riga. The provocations had one of those electric effects on human character that change the face of history. The young Charles XIII. of Sweden from the insignificance of youth, and excited at once the prince and his people to a pitch of heroism, that rivalled, or even surpassed, for a time, the glories of the great Gustavus. To resist his enemies, Charles raised a storm in front of his formidable batteries, which was forced to submit. He then proceeded against the castr, encountered a large army of Russians at Narva, and gained a complete victory on the 1st of September, 1700. Augustus was still engaged in the siege of Riga.

Compelled to abandon it by the approach of the Dutch, he affected to do so at the solicitations of the Dutch, and hastened to join the castr, with whom he concluded a new and more close alliance, offensive and defensive.

Charles in the meantime reoccupied Livonia, and in July, 1701, defeated the Saxon army on the Duna, compelling it to abandon fortresses and artillery. The Russians afforded severe resistance, but the fortunate Saxons were throughout made the sacrifice and the sufferers for others: for Augustus, wanting the art of attacking him any of the great parties of Poland or Lithuania, could depend in his distresses upon the affection of his native kingdom alone. Lost in self-admiration, like Louis XIV., no one would have been more worshiped than Augustus, had he been fortunate; but, in adversity, more were despised or forsaken. The only mode that he could adopt to cheer the hostile pressers of Charles, was to dispatch to him the Count of Konrady, his mistress, in the hope that the persuasions of beauty might soften the resolutions of the Swedish king. Charles, however, refused to see the fair envoy: he perished in guarding Augustus as a usurper, and would not grant peace to the Poles, except on the condition of their electing another king. But Augustus resolved not to yield without another effort: he flew to his native Saxony, drained it of its provinces and soldiers, and marched by the way of Czernowitz to the relief of Riga, captured between Chisarow and Bincow, on the 19th July, the very day which, in the previous year, had been marked by the fatal battle on the Duna. The result was now similar. The Swedes, however, having now learned the art of war, and had the brunette of the battle falling upon the latter, they suffered another disastrous defeat. Several of the palatines of Poland, in consequence of this, formed a kind of league, for the purpose of preserving the land from the ravages of war. At the head of these was Posen, of which Stanislaus Leszinski was Prince. Charles succeeded in rallying this party against Augustus, who still held some vain efforts to maintain his ground. The Saxon general made another stand at Pultsuk, with the cavalry which he commanded, but the Swedes were, as usual, victorious; and Charles having retired to Warsaw, the other King of Poland elected in place of Augustus. His views turned at first naturally toward the sons of Sobieski, whose election would have indicated a national choice; but the young Charles, the children of the eldest brothers; and as the younger refused to accept the crown to Prejudice of his elders, Charles was obliged to seek another candidate. He pitched upon Stanislaus Leszinski, who was accordingly elected king, on the 12th of July, 1704.

The new monarch, partly from the patron's hostility towards Saxony and Russia, and both accordingly prepared to invade the electorate, and by the conquest of Dresden itself force Augustus to abandon all claim to the Polish crown. The elector of Saxony, however, had not yet lost all hope; Russia was his ally, Austria his friend, and the Pope obstinately refused to recognize the right of his competitor. A new army of Saxons, commanded by Schonenburg, had been raised to defend the electorate, and the castr had promised to second its operations. But fortune was again wanting to the efforts of the Saxons, and the defeat of Schonenburg at Fruschat left Saxony completely exposed to the conqueror. After this disaster, Augustus was thrown upon the wantonness of the Swedes, and accordingly sent agents to treat with Charles, secretly however, since he himself was yet within the camp and the power of Russia. But before Augustus could escape, the Swedes forced him to a measure calculated to intercept, or prevent altogether to a permanent superiority. By the advance of Saxony, the Swedish force in Poland had been much reduced; its commander had moreover relaxed his vigilance, relying upon the negotiations which he was aware were carrying on the Elector of Saxony, and were, doubtless, to take advantage of the moment and to attack the Swedes. He did so with success, and even entered Warsaw in momentary triumph. But Augustus was ashamed of an advantage so unfairly gained, and so little likely to con- qnue to a permanent superiority. Instead, therefore, of making use of it to raise his tone, or diminish his concessions to Sweden, he on the contrary offered to make amends for the oppression; and at the same time accepted without hesitation the conditions that the Swede forced upon him, by roasting. Abandoning Russia, he hastened in person to meet the Swedish monarch at Altranstadt, and to conclude peace upon terms sufficiently humiliating. Augustus abdicated the crown of Poland in favour of Stanislaus, promised to respect this prince, his crown, and person, by letter. He abandoned his allies and his fortresses, and was obliged to give up the unfortunate Pathki to the vengeance of Charles. What must have been still more on his mind, in concluding, Charles, his predecessor Gustavus Adolphus, made himself the Defender of the Protestant Faith; and stipulated that Augustus should respect the creed and privileges of his protestant subjects of Saxony. This peace was concluded towards the close of the year 1706.

Augustus now saw himself confined to his native dominions, and condemned to political insignificance. He endeavored to drown disappointment in luxury and expense; and his efforts were not without some success. In 1708 he placed a Saxon army of 9000 men at the emperor's disposal in the Netherlands. Schonenburg commanded them; but Augustus himself served in their ranks as a volunteer, and as such took part in the siege of Lille. His natural son, Maurice of Saxony, made his first campaign on this occasion. The battle of Pultowa, and the overthrow of the power of Sweden in 1709, recalled Augustus to the throne of Poland. The pope released him from his oath of adoration. Russia, Prussia, and Denmark, in opposition to this pontificate, restored him to the possession of all his former dominions. He died in 1733, after a reign of 17 years. Augustus was always a personal friend of the Swedish general. Fortune, often favourable to Augustus while he remained inactive, never failed to abandon him as soon as he took the lead, or endeavoured to play the conqueror.
Charles XII, himself soon after re-appeared upon the scene; but all his histrionics was less dangerous to the allies than the intrigues of his still more treacherous minister, the Count de Goertz, who almost succeeded in subverting the existing alliances between the European states. He had nearly dissolved the bond between Augustus and Russia, when the death of Charles XII. was shewn to be a conclusion the struggles of war and of political intrigue.

The restoration of Augustus to the throne of Poland aggravated the ills of that unhappy country. If Stanislaus had been raised to the throne by the decision of a foreign power, he would have been under Russian support, and who first placed the country at the mercy of surrounding states. Unable to rely on the Polots, Augustus endeavoured to defend his authority by Saxony's protection and assistance. But they had no consequences; and the means by which these were terminated were as disastrous as the ills they remedied. It was first decided that the Saxony soldiers should evacuate the country; and on the other hand it was agreed, under the crafty mediation of Russia, that the national army of Poland should be reduced, from near 100,000 to the insignificant force of about 20,000 men. These measures of Augustus, says Malzewski, brought peace to Poland; but it was the peace of the terms of a partition. The interval between 1718, the year of Charles XII's death, and that of Augustus, which took place in 1733, passed away without being marked by any remarkable incidents. The unsuccessful effort of Augustus to secure the crown of Poland gave rise to his only attempt at active policy. A marriage between the king's eldest son and an archduchess of Austria was an opportunity for Augustus to display all his magnificence. The procession was such as could only be yearly repeated. The diamonds and embroidery had never been seen in greater profusion. But the good people of Dresden could only look with discontented eyes on a scene of magnificence, cruelly contrasted with their own recent and present misery. In addition to this, the recantation of the young prince, and the favour shown by the king to the Jesuits and his Catholic party in Poland, filled the Lutheran population of Saxony with anxious fears for their religious liberties.

Augustus was not beloved by his subjects either in either of his kingdoms; each complained that they were sacrificed to the other, while, in reality, both were sacrificed to the vain-glory of the prince. In Saxony, however, his prodigality was favourable to the arts; and the porcelain manufacture of Saxony (the rage with the princes of that day) may be said to have been founded in his reign. Poland had not even this trifling recompense. Such were the miserable results of the reign of a monarch who possessed personal accomplishments, as well as high and mental talents in no mean degree. Like Louis XIV., his greatest model, he was the hero of courtiers rather than of soldiers—beginning his career with mighty plans of empire, and saved at length from ruin merely by the kindness of fortune. At once a great and splendid prince, he was, in his old age, a monarch of the run of kingdoms over which he ruled, while the gorgeous luxury and far-famed magnificence of his person and his court rather aggravated than diminished the wealth of the kingdom of his people.

AUGUSTUS III

On Augustus II, elector of Saxony and king of Poland, was born at Dresden in 1586. His father, wishing to give him the same accomplishments that had distinguished himself, sent him in 1711 to visit the different courts of Europe. But the life of pleasure from his travels only the love of idleness and pleasure. He returned ' stiff, indolent, and backward,' says the historian of Saxony; 'good natured, indeed, which served to repress the faults of former; The father had at least an aim, in which he may have failed; but the son had neither aim nor purpose to fail in.'

The death of his father in 1733 made Augustus elector of Saxony, and left him at the same time the strongest prince of Poland. From 1712, the indolent nature shrunk, it is said, from struggling to attain this unattainable consequence; but his wife, a daughter of Austria, supplied her husband with ambition, and Augustus became a candidate. He was supported by the courts of Vienna and St. Petersburg. In consequence to his marriage, Augustus made a monarch of easy disposition, possessed of foreign and distant dominions; France, however, favoured his father's old competitor, Stanislaus, whose daughter had become the wife of Louis the Fifteenth, and the Polish nation nearly embraced the occasion to elect and to rally round a native prince. But a Russian army advanced to enforce the pretensions of Augustus III.; the Poles disputed gallantly, but unsuccessfully, the passage of the Vistula, and under Russian auspices a few of the Saxony partisans in Poland, under Augustus, rising in the name of Louise Augustus, was elected king of Poland. His competitor Stanislaus was obliged to fly and take refuge in Danzig, which he was compelled eventually to abandon, along with his pretensions to the throne of Poland. Augustus, although received at Cracow in the commencement of 1734, did not become undisputed monarch of Poland till after the Diet of Pacts, held at Warsaw in 1736. Though oppressed by Bouchon, the Poles showed themselves jealous of their independence, and they threatened to withdraw their support to the king, and for the maintenance of only 1200 Saxon guards within the kingdom. Augustus yielded, and half reluctant, Poland once more submitted to a Saxon prince.

Up to the time of his accession, Augustus had bestowed his confidence chiefly upon the old companion of his travels, Sulikowski; but this favourite was superseded by another, Count Bruhl, who henceforth monopolized all authority in Saxony and Poland. Mutual stipulation was made between the two states that the sole object of the French and Prussian wars was to expatriate the king of Prussia from Prussia. The death of Frederick the Great, the king of Prussia, excited the jealousy of the Saxony house, and incited its ministers one day to oppose Prussian aggression, the next day to imitate it. The probable dissolution of the Austrian empire after the death of Charles the Great, which gave rise to the idea of an independent Poland, Ulriczowski's project to conquer Bohemia for Saxony. Bruhl at first abandoned this scheme and leagued with Austria to support the succession of Maria Theresa. In a little time, however, he was forced into the same party, and to resume the scheme of appropriating Bohemia, while Frederic was to have Silesia. Augustus acquiesced. The Saxony and Prussian troops fought in alliance, but had not been long in the field, when Augustus learned of his minister's designing to leave him in Prussia. Frederick. Soon after, in 1743, an alliance was concluded at Warsaw between England, Saxony, and Austria, for the defence of the house of Hapburg. The king of Prussia instantly made 100,000 men to march into Saxony, but was all opposed him, and made himself master of Dresden, December, 1745; whilst Augustus, with his minister, took refuge in Poland. The truce of 1746, however, restored to him the electorate; and at the same period took place the marriage of Augustus's daughter, Maria Josepha, with the dauphin of France; a marriage from which sprung Louis XVI., Louis XVIII., and Charles X., the present exiled king of France.

The impossibility of coping with Prussia, already proved by the defeat of the Saxons and their allies, could not keep Augustus or his minister from leaguing once more against Frederick, and even planning to share that monarch's territories with Russia. In consequence of this, Frederic invaded Saxony, and suddenly turned on the entire Saxon army in its intrenched camp at Purna. Augustus again fled to Poland. His reign in the latter country was as pernicious as in Saxony. If Saxony was humbled in its pride, stripped of its resources, and ravaged by invading armies, Poland suffered equal injury, though less violence. It was allowed to sink into what Ruhlieres calls 'a tranquil anarchy.' Its debts, which were seldom held, were never allowed to come to an end. The resolution of the prince was a source of vexation to Augustus, who was passionately fond of the chase, preferred the well-stocked forests of Saxony to the plains of Poland. Saxony itself having fallen into inscriptions it was a source of much vexation to the Russians. Simultaneously, St. Petersburg became the capital, to which the Poles resorted, rather than to Dresden. Thus the supremacy of Russia was allowed silently to establish itself in Poland under the simple government of Augustus. Pictures, pelvain, fetes, and festivals, the usual cares of the state, were the only care Augustus, the only care Augustus, the only care Augustus, the only care...
birds of the family Auk, known scientifically as species of the subgenus Alca, Fratercula, Mergulus, and Phalor.

Subgenus Alca.  

The true Aukas, though they are strictly oceanic birds, rarely ever leaving the water except for the purposes of reproduction, will sometimes proceed swiftly, though awkwardly, on foot when pursued on land. They breed in large colonies, in coves and rocky cliffs, laying only one disproportionately large egg. Their food, which they obtain by diving (an operation in which they are materially assisted by their wings as well as by their feet), consists of small fishes, crustaceans, and other marine animals. The young are said to be fed from the crops of the parents, not only before they are able to leave the place of their birth, but also for some time afterwards.

The genus Alca, as it is reduced by modern ornithologists, includes but two species, apparently incongruous. The first of these, the Great Auk (Alca impennis, Linn.) remarkable for the imperfect development of its wings, seldom leaves the arctic circle and the regions bordering on it, and is a rare visitant to the British isles. Dr. Fleming, however, gives an account of one taken alive at St. Kilda (Alca impennis).

(where they are sometimes known to breed), which, even with a long and heavy cord tied to its leg, swam under water with extraordinary speed. The power of the apparently useless wings as organs of progression was still more strongly shown in the Great Auk chased ineffectually by Mr. Bullock during his tour to the Northern Isles: for the four cars of the bird are said to have left the secured boat of his pursuers far behind. According to the same authority, only a single pair had been known to breed in Papa Westra for several years. Newfoundland is recorded as one of their breeding places, and Pennant relates that the Equinoxus who frequented the island made clothing of their skins. In the ocean that washes the Feroe Islands, Iceland, and Greenland, where they dwell in great numbers, they may be frequently seen on the floating ice; but Pennant says that they are observed never to wander beyond soundings, and that seamen direct their measures according to their appearance.

The food of the Great Auk consists principally of fish; and the Lamp-fish (Cyclopus lumpus) is said to be its favourite morsel.

The length of the bird is somewhat under three feet. The winter plumage, which begins to appear in autumn, leaves the cheeks, throat, fore-part, and sides of the neck white. In spring, the summer change begins to take place, and confines the white on the head to a large patch, which extends in front and around the eyes; the rest of the head, the neck, and upper plumage is of a deep black. There is a specimen of the bird in its summer dress, in the British Museum, with 'Papa Westra' on the label. The Great Auk breeds in June and July, laying one egg, about the size of a swan's, of a whitish-yellow, marked with numerous lines and spots of black, which have been supposed to bear some resemblance to Chinese characters.

In the Black-billed Auk, Razor-bill, or Murre (Alca torda, Linn.), the development of the wings is carried to the usual extent necessary for the purposes of flight, though the bird uses them with great effect as oars when swimming under water.

The northern hemisphere, where they are widely diffused, is the portion allotted to these birds; but it is in the higher latitudes that they swarm. In England, the Needle's, and other adjacent precipitous cliffs, have a fair share of them; and here, as in other places, the 'dreadful trade' of taking their eggs, which are esteemed a delicacy, for salads especially, is carried on. In Ray's Willoughby, the habits of the Razor-bill are thus described: 'It lays, sits, and breeds up its young on the ledges of the craggy cliffs and steep rocks by the seashores that are broken and divided into many as it were stairs or shelves, together with the Coulterneb and Guillermot. The Manks-men are wont to compare these rocks, with the birds sitting upon them in breeding time, to an apothecary's shop—the ledges of the rocks resembling the shelves, and the birds the pots. About the Isle of Man are very high cliffs, broken in this manner into many ledges one above another, from top to bottom. They are wont to let down men by ropes from the top of the cliffs, to take away the eggs and young ones. They take also the birds themselves when they are sitting upon their eggs with snares fastened to the tops of long poles, and so put about their necks. They build no nests, but lay their eggs upon the bare rocks.

On the coast of Labrador they abound, and the thousands of birds there killed for the sake of the breast feathers, which are very warm and elastic, and the quantities of eggs there collected, amount to almost incredible numbers.

The summer and winter dress of the Razor-bill, though different, do not vary so remarkably as the plumage of many other birds. In the summer dress, the white streak which goes to the bill from the eyes, becomes very pure; and the cheeks, throat, and upper part of the front of the neck are a dark brown, shaded with reddish. In winter, the throat and fore-part of the neck are white.

The young of the year is, by the best authorities, supposed to be the Alca Pica of Gmelin.

The Razor-bill is little more than fifteen inches long. The egg (for they lay but one) is very large in proportion to the bird, being about the size of that of a turkey, but of a longer shape, pointed towards the smaller end, white or sometimes yellowish, blotched, and streaked with dark brown, chiefly towards the larger end.

Subgenus Fratercula.  

Leaving the true Aukas we come to the genus Fratercula Bries (Mormon, Illiger), of which the Labrador Auk, common Puffin, or Coulteneb, Fratercula Arctica, Mormon...
but there is little doubt that other fishes and crustaceans are acceptable to the bird.

Subgenus Mergus.

The Little Auk, Common Scoter, or Sea Dove, Mergus Melanoleucus of Ray, Ursus Alle of Temminck, and Alcea

[Fratercula Arctica.]

\textit{Fratercula}, Temm., \textit{Alca Arctica}, Linn., may be taken as an example.

Selby gives the following account of the habits of this bird, and is corroborated by others who have written on the subject: 'Although the puffin is found in very high latitudes, and its distribution through the arctic circle is extensive, it is only known to us as a summer visitant, and that from the south, making its first appearance in the vicinity of its breeding stations about the middle of April, and regularly departing between the 10th and 20th of August for the southern coasts of France, Spain, and other parts of Europe, where it passes the remainder of the year. It breeds in great numbers upon Prionotholm Island, off the coast of Anglesia, on the Isle of Man, and most of the islands, indeed, of the English and Scottish coasts. Many resort to the Feroe islands, selecting such as are covered with a stratum of vegetable mould; and here they dig their own burrows, from there not being any rabbits to dispossess upon the particular islets they frequent. They commence this operation about the first week in May, and the hole is generally excavated to the depth of three feet, often in a curving direction, and occasionally with two entrances. When engaged in digging, which is principally performed by the males, they are sometimes so intent upon their work as to admit of being taken by hand, and the same may also be done during incubation. At this period I have frequently obtained specimens, by thrusting my arm into the burrow, though at the risk of receiving a severe bite from the powerful and sharp-edged bill of the old bird. At the farther end of this hole the single egg is deposited, which in size nearly equals that of a pullet, and, as Pennant observes, varies in form; in some instances one end being acute, and in others both equally obtuse. Its colour when first laid is white, but it soon becomes soiled and dirty, from its immediate contact with the earth; no materials being collected for a nest at the end of the burrow. The young are hatched after a month's incubation, and are then covered with a long blackish down above, which gradually gives place to the feathered plumage, so that at the end of a month or five weeks they are able to quit the burrow, and follow their parents to the open sea. Soon after this time, or about the second week in August, the whole leave our coasts, commencing their equatorial migration. At an early age the bill of this bird is small and narrow, scarcely exceeding that of the young Razor-bill at the same period of life; and not till after the second year does this member acquire its full development, both as to depth, colour, and its transverse furrows.

In rocky places (Dover cliffs for instance), they deposit their single egg, as Montagu observes, in the holes and crevices. The length of the bird is about twelve inches. The half of the bill nearest the head is brown; the rest red. The corners of the bill are puckered into a kind of star. The legs and feet are orange. The plumage is black and white, with the exception of the cheeks and chin, which are sometimes grey. The young, picked with spines, are by some called the sanderling; they are also occasionally posted in the north.

Sprats are supposed to be the principal food of the puffin;
AULIC COUNCIL (Reichsobrath), the name once given to the personal council of the emperor of Germany, which was distinct from the imperial chamber, or Reichskammergericht, which was the supreme tribunal of the German empire. [See Imperial Chamber.] The Aulic Council consisted of a president, a vice-president, the vicemayor of the empire, and eighteen councillors, six of whom were always imperial councillors, and twelve provosts of the city of Strassburg, whose voting power was considered equal to that of all the rest. The nomination of the Aulic Councillors belonged to the emperor, who paid them, with the exception of the vice-president, a salary, or a pension. When a vacancy occurred, the names of the persons to be chosen were drawn from two classes, nobles and civilians. The affairs which were under the exclusive jurisdiction of this court were of three sorts: 1. Feudal processes concerning the immediate feudatories of the emperor; 2. Those called rescripts of courts, including appeals from the hereditary dominions of the emperor; 3. All matters concerning the imperial jurisdiction in Italy, as the emperor was styled King of the Romans. The investitures of counties of the German empire were given by the Aulic Council. The Aulic Council did not interpose in the political or state affairs of the empire. The Council ceased at the death of every emperor; and the new emperor made a fresh appointment. The decisions of the Aulic Council were submitted to the emperor for his approbation, by which they became law.

At the extinction of the German empire by the renunciation of Francis II in 1806, and the establishment of the Confederation of the Rhine under the protection of Austria, the functions of the Aulic Council were transferred to the grand council of the Congress of Vienna, which is styled Hofsregerath, and consists of twenty-five counsellors. The members also of the various boards or chancellories of state for the affairs of Bohemia, Hungary, and Transylvania, Italy, and Galicia, are styled Aulic Counsellors, but are inferior in rank to the councillors of state, of which latter two sat at the head of each board. [Austria as in London, 1872.]

AULIS. [See Euphros.] AULUS GELLUS. [See Gellius.] AUMALE, CHARLES DE LORRAINE, Duc d', sprung from a branch of the ducal house of Lorraine, which had settled in France about the beginning of the sixteenth century, when it was possessed of the fief of Aumale. His father, Claude d'Aumale, was governor of Burgundy, and uncle to Henry Duke of Guise, the head of the League. [See Guise.] Charles d'Aumale entered into the party of the League, which, under pretence of suppressing the Huguenots, aspired to the supreme power. He was the means of subjecting Picardy and Normandy to the League. After the assassination of the Duke of Guise, in December, 1563, he kept up an office as in the league, and the heads of their party. Aumale in 1569 took possession of Paris, from which King Henry III. had been obliged to retire, and he dissolved the parliament by force, and sent its members to the Bastille. Shortly afterwards he marched forward in France about the beginning of the sixteenth century, when it was possessed of the fief of Aumale. His father, Claude d'Aumale, was governor of Burgundy, and uncle to Henry Duke of Guise, the head of the League. [See Guise.] Charles d'Aumale entered into the party of the League, which, under pretence of suppressing the Huguenots, aspired to the supreme power. He was the means of subjecting Picardy and Normandy to the League. After the assassination of the Duke of Guise, in December, 1563, he kept up an office as in the league, and the heads of their party. Aumale in 1569 took possession of Paris, from which King Henry III. had been obliged to retire, and he dissolved the parliament by force, and sent its members to the Bastille. Shortly afterwards he marched forward.

AUSNIS, one of the former provinces or military governments of France of the time of Louis XIV. it was composed of those divisions. It was bounded by the ocean on the W. on the N. by Poitou, from which it was separated by the river Sèvre (distinguished as the Sèvre Niortaise), and on the E. and S. by the province of Saintonge. It is watered by the Sèvre just mentioned and the Charente. These rivers, rising in the more inland provinces, pass through Aunis in their course to the ocean. The soil is generally dry, but it produces corn, and grapes, from which good wines and brandy are made; while the marshy tracts afford pasturage for a large number of cattle. There is good iron, and there are frequent salt springs. There is little wood. The salt marshes, which are considerable, yield salt of the best quality; but their exhalations are prejudicial to the health of the inhabitants. The district is divided into 74 communes, of which 7 are seaport which it possesses, render it commercial and wealthy. The chief article of export is brandy; but the cod-fishery, and the colonial and coasting trade employ several vessels. The coast abounds in shell-fish, of species that are not very common; and the mussel-fishery (picole des secondes) brings in considerable profit. The salt is of three kinds, white, grey, and reddish; the first is the most esteemed.

The maps differ considerably in giving the boundaries of Aunis. Some contract the province so far as to exclude the town of Rochefort, which is on the northern bank of the Charente; while others make the Charente the southern boundary of Aunis, and so include Rochefort. The map given in the Atlas to the Encyclopédie méthodique extends the province still farther south to the Gironde; for the district of Brouage seems, which formerly appertained to Saintonge, was dismembered from that province and joined to Aunis, which thus included all the sea coast between Poitou and Guienne, together with the islands of Ré, Aix, and Oleron. The district of Brouage seems to be productive in salt, as also the isle of Oleron. The isle of Ré produces wine; but is ill-provided with wood, and is not of much importance.

The chief town of Aunis was La Rochelle; and to this we may add Rochefort and Marennes as next in importance.

The province is now comprehended in the department of Charente Inférieure (Lower Charente). (Mallet Brun; Encyclopédie méthodique, Géographie Moderne; article Aunis.)

AURANTIACEÆ, or the orange tribe, are dioecious, leathery, peltate plants, with dark-green leaved leaves, filled with fragrant essential oil collected in little transparent dots, and a superior ovary changing to a succulent berry, the rind of which is also filled with fragrant essential oil. No natural order can well be more strictly defined than the orange tribe, and none have properties more uniform and definite. It consists of trees or shrubs found exclusively in the temperate or tropical parts of the Old World, and unknown in a wild state in America; their flowers are usually odoriferous, and their flower and fruit 100% shade of yellow. They principally differ from each other in the number or proportion of arrangement of their stamens, in the number of cells or seeds in the fruit, and in the texture of the rind of the fruit, which does not always remain of the same solidity, and in the nature of their congegers, but is frequently a mere skin inclosing the pulp. The natural order which is most nearly allied to the orange tribe is that called Xanthorrhoea, into which the oranges pass by their climbing genus, Lovenopa, and which differ essentially in having a hard dry fruit which splits into several carpels.
AURE D', one of the 'Four Valleys' (Quatre Vallées) in Upper Armangne. [See ARMAGNAC, and PYRÉNÉES, HAIDA.]

AURÉ, a small river in Normandy, rising near the town of Mortagne, in the department of Orne, and flowing in a direction a little to the north of east, until it joins the Eure not far from Dreux. As its whole course is not much more than forty miles, it would not deserve notice, but for the circumstance that its stream was interrupted and its waters swallowed up in deep pits or abysses which occurred in its course. It is supposed by Desmarest (in the article 'Auré,' in the Encyclopædia Methodica, 'Geographie Physique'), that this absorption of the waters was consequent upon the accumulation of mud in the bed of the river, which caused the waters to overflow, and to work out for themselves subterranean channels. But whatever may have been the cause of the phenomenon, the mills on the stream were materially injured by the frequent failure of the water; and this injury led to the application of a remedy. The bed of the river was cleansed, the mud which had accumulated taken away, the pits by which the water was absorbed stopped up, and the orifices by which the water was absorbed in winter issued forth again, were made to empty themselves into the stream. (Encyclopædia Methodica.)

AURELIA, in entomology, a name given to that state of an insect which is between the caterpillar and its final transformation, and is commonly called a chrysalis or pupa. The term aurelia was first applied by the Romans, and that of chrysalis by the Greeks, to certain butterfly pupae which have a golden colour. In England, those of the peacock (Fossaon fo) and the small tortoiseshell (Faunus licaon) butterflies are beautiful examples, and may be seen in abundance hanging to the common stinging nettles by the latter end of the month of June. [For further account, see Pupa.]

AURELIANUS, LUCIUS DOMITIUS, is commonly said to have been born at Nîmes, in Panonnia; but the place of his birth is not distinctly ascertained, nor do we find the date of it exactly stated. His father was a husbandman; his mother priestess of a temple of the Sun. It was said, probably by the flattery of later times, that his subsequent elevation was procured by a variety of prodigies and omens. At an early age he enrolled as a common

soldier; tall, handsome, and strong, skilful and diligent in all athletic and military exercises, temperate in his habits, and of sound intellect, he rose from his humble station to the highest military offices, during the reign of Valerian and Claudian. It is a trifling circumstance, but not unworthy of notice, as illustrative of the qualities looked for in a personal at that time, to find the following effect in praise of his personal prowess:—

'Mille, mille, mille, mille, mille, mile, mille, decollavimus; Usum homo mille, mille, mille, mile, decollavimus; Mille, mille, mille virum, qui mille mile occidit. Transtum va habet nemo quantum futid sanguinis.' He was distinguised by the soldiers from another Aurelian, also a tribune, by the characteristic epithet 'sword in hand' (manci ad ferrum). As an officer, his discipline was strict even to severity. He wrote to his lieutenant, 'If you wish the tribune, or to live, keep the soldiers in order. Let no one steal another man's fowl, nor touch his sheep. Let none plunder grapes, nor injure corn-fields. Let none exact ee salt, or monies. Let each be content with his own rations. Let each get rich from the booty of the enemy, not from the tears of the provincials,' &c.

On the death of Claudius, honourably distinguished by the appellation of Gotho, a.d. 270, Quintilius, brother of Claudius, assumed the purple, but resided at Rome. The troops, at the end of seventeen days, on hearing that the legions of the Danube had raised Aurelian to the imperial dignity. The new emperor suppressed an inroad of the Suevi and Sarmaets, and compelled them to retreat to the northern side of the Danube; but he withdrew the Roman troops from the wines of Dacia, and thus doubly strengthened the frontier of the empire by rendering the Danube its boundary, and by abandoning a district too distant to be easily defended, and thinly peopled to defend. Thus, Julius, thus engaged, Aurelian was recalled to the north of Italy, an incursion of a German tribe, the Alemani or Marcomanni. After various alternations of success, among which we may notice a battle near Piacentia, in which the Roman troops were defeated, he placed the old rulers of the barbarians in his triumph, a.d. 271. Aurelian then visited Rome, punished with a severe violence the severity of the authors of a sedition which had disturbed the city, and repaired the walls, including an additional space within their limits. The disturbances at Rome were owing to the 'Monetarii,' a body of men explained by Ptolemaeus to be the coiners, a set numerous and united enough to raise seditions; to support which, he refers to the passage of Eutropius (lib. ix.).

A. Victor also says that the 'Monetarii rebellaviunt,' got up a rebellion. These men were not only the inventors of the coinage, which they had probably debased for the sake of their own profit. We know that Aurelian afterwards issued a new and improved coinage. See Gibbon (ch. x. sect. 8).

Aurelian, in this time, was master not only of the central portion of the Roman world. Under the weak and contemptible princes who preceded the energetic reign of Claudius, Aurelian, a multitude of contempors for empire started up, who fell one before another, or maintained, in these several districts, a short and anomalous independence. Of these, the last and most powerful were Tetricus and Zenobius, who respectively held the exterior and interior of the Roman empire. Spain, Gaul, and Britain owned, in name, the sovereignty of Tetricus; but he was little more than a pageant of a monarch, in seeming possession of a power which he could not wield, and which wheresoever he turned his face to relieve him from this splendid misery, and betrayed his own army into a defeat near Châlons, in Champagne, where he himself, with a few friends, took refuge with his more fortunate competitor. Spain and Britain acknowledged the reverse places these events in the year 271, contrary to most other historians, who make them subsequent to the fall of Zenobia. (See Vopiscus, cap. 35.)

The west being secured, Aurelian bestowed himself to that war which was the result of the issue of the war of 271; the reduction of the great, flourishing, and short-lived city of Palmyra. (See Palmyra, OEBNATHUS, ZENOBIA.) Oebnathus, who had raised his native city to the height of power, was dead, and succeeded by his widow, the empress Zenobia, a woman of high birth and masculine talents. The march of Aurelian was easy as well as toilsome. In his route through Illiria and Thrace
he met and vanquished some of the barbarian hordes who infested the frontier provinces of the Roman empire. Passing through Byzantium, he traversed Bithynia. Ancyra (in Galatia) submitted; Tyana was besieged and taken; and Antioch opened its gates after a slight skirmish at Daphne. This is the statement of Vopiscus; but Eutropius speaks of a severe battle at Antioch, and makes no mention of that fought at Emesa. The hostile armies met at Emesa, in Syria, where Aurelian gained a decisive victory, and continued his march to Palmyra unmolested, except by the constant attacks of the Syrian robbers, from whom much inconvenience was sustained in crossing the deserts. The resistance of the city did not argue its fate; and almost at once, Aurelian, in person, entered it, and took it by assault. Vopiscus has preserved a letter from Aurelian himself, in which he complains that the Romans talk of his waging war with a woman, as if she fought with her own unassisted strength, and continues, 'It cannot be told what preparation for war, what store of arrow, spears, lances, was here. No part of the wall but was occupied by two or three battalions, and there are engines to cast fire. She does not fight like a woman, nor like one who fears punishment. But I trust that the gods will assist the republic, who never have been wanting to our undertakings.' He offered favourable terms of capitulation—an honourable retreat to Zenobia, and the reservation of their rights to the Palmyreans; but a haughty answer was returned by the queen, in the Syrian language, reminding him that Cleopatra, when she lived like a queen, and threatened him with the promised help of the Persian, Saracen, and Armenian. But Zenobia was disappointed in her expectations about these auxiliaries; and the skilful commissariat arrangements of the emperor overwhelmed the paltry army with famine. The Persians were not of much service to the army in the inhospitable deserts which surround the oasis of Palmyra. Zenobia felt resistance to be hopeless, when Probus, to whom the re-conquest of Egypt had been entrusted, approached her in a victorious aspect, and to the assistance of the emperor; and she tried to escape, but was intercepted on her way to Persia, and brought to the Roman camp. The soldiers clamoured loudly for her death. Aurelian refused to shed female blood; but he took his revenge on the Persian king, who had dethroned Longinus, whom he had persecuted the celebrated Longinus, who had been Zenobia's instructor in Cretan literature. The city surrendered soon after the capture of its mistress, A.D. 273, and was treated with comparative clemency, being neither plundered nor destroyed.

Aurelian was already returned into Europe, when he heard that the Palmyreans had revolted, and massacred the small garrison of six hundred archers whom he had left at Palmyra. He resolved to revenge, as he exceeded even his usual ferocity in revenging this ill-judged insult. There is a letter extant written by him to Coenion Bassus, in which he says, 'The sword must go no farther; enough of the Palmyreans are slain and cut to pieces. We have taken possession, habits, and unclean acclamations, which it is honourable to the emperor to have perceived and cherished; he owed his adoption into the Aurelian family by Antoninus Pius, who was himself adopted by Hadrian, upon condition that he should adopt Annius Verus, and the son of a deceased favourite, L. Coenius Commodus (called, after his adoption by Hadrian, Allius Verus Cæsar, who was to have been his successor; this son was named Lucius Verus. [See Verus.] There was policy, as well as family connexion, in these proceedings. The father of Aurelius was dyin; while he was young, his grandfather took charge of his education, and gave him every advantage which the age he lived in could afford. We learn from himself that he had masters in every science and polite art, whose names and qualifications he has most gratefully recorded, modestly attributing all his acquirements to their instruction and example. (See Book I. of the Meditations.) They were all more or less remarkable for rigid observance of the rules of morality, command of temper, polite conversation, and courteous manners, and were all afterwards rewarded according to their merits and just expectations, two of them being raised to the consulate. These men, therefore, were not only tutors, but models upon which the more perfect character of Aurelius was formed; the foundation of which, however, he piously says was laid by his parents. From what he had heard of his father, he learned modesty and manly firmness; from his mother, piety, generosity, and simplicity of life; from his grandfather, virtuous disposition of mind, and

were those whose stations gave them a right to be near his person; he was murdered in October, 274 (in 275, according to Vopiscus and Aurelius Victor). Gibbon, without quoting his authority, makes it four years and nine months. He left a single daughter, whose descendants remained at Rome when Vopiscus wrote.

Aurelian is not ill-described by Eutropius as of a character 'necessary on some occasions rather than loveable on any; but harsh on all.' Yet he had many qualities noble and valuable in a ruler; he was frugal in his expenses, temperate in his pleasures, moderate in providing for friends and adherents, strict in preserving good order, and resolute in repressing peculation, and punishing those who grew rich on peculation and the spoils of the provinces. But these great qualities were obscured by a temper naturally harsh, and trained by a long and exclusive course of military service into total carelessness for the sufferings of others; insomuch, that the Emperor Diocletian, himself not over inclined to compassion, said on that account that Aurelian was better suited to command an army than an empire. (Vopiscus, in the Historia Augusta; Eutropius; Aurelius Victor; Gibbon, c. xi; Crevier, Histoire des Empereurs Romains, vol. vi.)

Vopiscus informs us (cap. I.) that his Life of Aurelian was founded on Greek authorities (there having been no Latin history of Aurelian before his), and on the Journals and Campaigns of the emperor, which were then kept in the Ulpian Library at Rome.
habital command of temper, &c. For the art of government, and the manners that give dignity to a ruler, he afterwards studied the public and private conduct of Antoninus Pius. His teachers were former. One of those distinguished of them, Rusticus, procured him a copy of the works of Epictetus, which confirmed his natural inclination to Stoicism, and became his indispensable companion; he delighted in commenting upon them, and thanked the gods that he had found a manuscript which he could collect wheresoever to conduct his life with honour to himself and advantage to his country. The life and writings of the emperor rank him, indeed, amongst the best teachers and historians of the stoic school, and have led his biographers to expatiate upon its merits. It would be out of place here to do more than to acknowledge the general excellence of its moral rules, and their universal application as a system of moral philosophy to the use of men of all ranks and conditions in society. From this circumstance, Stoicism had more followers than any other philosophical sect. Much has been said of its extreme severity: perhaps from some of its followers having overstated its rules, and adopted practices more rigid than are consistent with nature and conformable to reason; but such men are ascetics, and not Stoics. But, admitting its rules to be laid down in an extreme manner, they stand upon the same footing as certain theories in the exact sciences that find their natural limits in practice. In the lives of Epictetus and Aurelius, the just limits of the rules of Stoicism, and the proof of their utility to men of all conditions in life, may be found. They were equally adapted to the purposes of these two men, whom we may link the example of the social life. The one was the slave of a man freed from every slavery but that of his own vices by Nero, living in the worst of times, with the worst examples immediately before his eyes, and trusting to chance and his own exertions for education. The other was not only a freeman, but born to command, and enjoying every advantage; yet there is nothing in the lives and practices of these two men contrary to nature and social order, and little or nothing more to be required of either of them than what they performed. They were equally remarkable for their social and intellectual conversation every respect; and they have each left us the rules by which they governed themselves. (See ARrian, and EPictetus.) The work of Aurelius, which is divided into twelve books, and written in Greek, is generally known by the name of his Meditations. There has been much unnecessary caraviling about its Greek title, ῥωθ ἐγέρων, variously rendered 'of' and to himself, or 'concerning himself.' It is a private note-book, kept for a purpose that the critic would have been better employed in clearing out great works. Aurelius accomplished the arduous task of passing through a life of extraordinary difficulty and temptation with unblemished character. His son entirely failed in it, not from disability, for he was educated and trained at Stoic schools. His son related every part of his steps, till he became free from his father's observation and control; till then he must have given satisfaction, for his father thanks the gods that he had found proper tutors for his children. We must therefore infer that education and natural inclination are not of themselves sufficient to keep a man in the paths of virtue without an reuniting discipline. The severest and most important rule of Stoicism relates to self-government, and enjoins daily and hourly examination of all our thoughts, words, and actions. This golden rule is also the monastic principle. Aurelius always observed it, as his book proves; it was his monaster to keep him to his duty; it fully illustrates the efficacy of stoical discipline, and its effect upon the man himself gives it its title. Hence are the title, the bacteria of his education, and a collection of rules, dogmas, theories, comments, and opinions, put down as they were suggested by passing events, reading, or conversation; sometimes they appear to be preparatives for particular cases in which he expected to be called upon ad hoc. They form no regular series, nor have they any relative order, but they all tend to the purposes of morals, discipline, and self-government. When not new, they are placed in a new light. They may be considered as a supplement to Epictetus, and are, as it were, a collection of maxims of discipline left to us by the ancient philosophers. This book was first edited in Greek and Latin by Xylander, Zürich, 1554, then by M. Cassaubon in 1643, much improved; but still more by Gotschen, Camb. 1645, with some valuable tables of reference. It was re-edited by O. Stanhope, with Dacier's life.

Lond. 1637, 1704. An edition by J. M. Schultz was published at Schleswig, 1805; and another by Coray, Paris, 1816. The English translations are by M. Cassaubon—seven editions between 1634 and 1702; the reader is confused by his explanations of his own language as he goes on: by J. Collier, remarkable for its vulgarity; by J. Thomsen, 1747. Anonymous, Glasgow, 1749, harshly literal; and by R. Graves, 1792, said to be the best, but very bad.

The events of Aurelius's life are marked by wise and prudent conduct. He passed through all the offices usually given to persons of his rank and pretensions, and as he most punctually attended to his duty in them, he obtained those facilities as a man of business for which he was remarkable. In his fifteenth year the daughter of Commodus was betrothed to him by the desire of Hadrian, but the union was dissolved by Antoninus Pius after Hadrian's death. His adoption by Antoninus Pius took place in his eighteenth year, when he was named Marcus Aurelius Aurelius. After the death of Hadrian he married his cousin Faustina, daughter of Antoninus Pius, a lady whose conduct was not calculated to promote his happiness, and though he had ample cause, he refused to divorce her. Upon the death of his new father in 161, he took the same title of Antoninus, and immediately associated Lucius Verus with himself as partner in the empire; he also gave his daughter Lucilla in marriage. This last and highest office Aurelius accepted at the request of the senate, much against his inclination; but having accepted it, he never suffered his firmness for study and philosophy to interfere with his public duty. A troublesome reign ensued, beginning with inundations, earthquakes, famine, and pestilence, causing universal distress, which it required extraordinary exertion to alleviate. The life of a man whose object was peace was almost entirely occupied by war, owing to former emperors having conquered more countries than they could unite in one empire. This was only making as many enemies, open and concealed, as conquerors. The safety of the empire, however, now depended upon its keeping all its provinces, for its inability to do so could be proved, common cause would be made against it, and its destruction would follow. Hence it became the duty of Aurelius to put down the insurrections that broke out in all quarters. This he did by activity, fortitude, and a prudent choice of his lieutenants; he was everywhere victorious; and he took the best means in his power to make his victories effective, by showing severity and clemency to conquered, endeavouring thereby to prove that he was a ruler under whose sway men might live in peace if they pleased. But the spirit of liberty and independence on the frontiers could not be suppressed; all that Aurelius could do was to maintain the integrity of the empire during his reign, leaving the same hopeless task to his successors.
The calamities in Italy were not ended when the Parthian war broke out. Verus took the command in this war, and returned victorious, A.D. 166, but brought the plague with him to Rome. (See Verus.) Calpurnius Agricola was sent against the Britons, who threatened invasion; and Aurelius Victorinus against the Catti. The two emperors soon after marched together against the Marcomanni, and obliged them to sue for peace. In returning from this expedition Verus died, n.c. 169. In the year 174 Aurelius was compelled by the Goths who made many annoyance. During this campaign a battle was fought with the Iazyges on the frozen Danube: and in the year 174 an event happened which has given rise to much controversy, though we have no precise account of it. Scala, the son of Aurelius, being unwarily drawn into a defile by the Quadi, was nearly overcome by the attacks of the enemy, whom, from the nature of the place, the Romans could not resist, as well as from fugitiveness, the unskilful manner in which he handled the water, which they had not tasted for some days. From this difficulty they were suddenly relieved by a violent storm, that fell lightly on them, and gave them an opportunity of refreshing themselves, while it directed its fury against some kind of prophecy, knowing how to say, as some say, the lightning, to which others add wildfire, actually destroyed them. The Romans took advantage of the cross, and gained a victory. Upon this, some unlucky legende, not knowing that the 15th or Thundering Legion, although it was in this climate, happened to occasion to call it a Christian Legion, and to attribute the miraculous storm to the efficacy of its prayers: and a letter exists from the emperor to the senate acknowledging the fact. This letter is in Greek: no Latin copy has been discovered. It is not authenticated and nobody will believe that Aurelius would insult the senate by writing in a strange language, though it may be argued, as it has been, that this is only the substance of the pertinent communication, and not to be considered as the original. (See the letter in D'Acier's Life of Aurelius, Stanhope's ed.) But the internal evidence of the letter is perhaps sufficient to destroy its credit. The heathens are also said to have acknowledged the miracle, and to have attributed it to the two of their gods. (See Perseus, Hist. Rec. iv. 13.). Some attribute it to Antoninus Pius: but the charge of persecution is still maintained against Aurelius, especially in the case of his son, who published no edict against them. Marcus certainly appears not to have liked the Christians, perhaps he even hated them. (See Moch. xi. 3, and Gataker's note.)

During his long northern campaigns Aurelius crossed the Danube and engaged the Sarmatians and the Saciarii. His victories are commemorated on one of the medals which we have given. But the rebellion of Avidius Cassius in the east compelled the Emperor to return to Rome, and to leave the barbarians of the north in a more powerful position than was convenient for the frontiers.

The Clemency, justice, and sound policy of the Emperor were particularly shown in this rebellion of Cassius (A.D. 175), who, after a feeble and unsuccessful attempt to get possession of the empire, was put to death by his own officers. He would not extend the usual penalties to his family, nor suffer many of his accomplices to be punished; he even destroyed his private correspondence, that none might live in fear, and be induced to continue in rebellion as their only safety. He left the whole matter to the senate, as if it had been an ordinary affair, recommending the greatest clemency, as he was most desirous of freeing himself from all imputation of revengeful feeling. (See Cassius, Avidius.)

After the death of Cassius, the Emperor made a journey into the east in order to restore tranquillity, which had been somewhat interrupted by the rebel Cassius. In his visit to Lower Egypt and Syria, he reconciled the good-will and affection of his various subjects by his kindness and his amiable manners. During his return through Asia Minor, his wife Faustina, who accompanied him, died at a castle called Halaie, at the foot of Mount Taurus. By her infidelity to the Emperor he was generally beloved, the good-natured prince, who either knew nothing of it or took no notice of it, lamented her loss as if she had been the last of wives; and the Senate, in the usual style of adulation, decreed that the temple to her was to be adorned with divine honours with the title of Diva. Aurelius also instituted a new establishment for young ladies under the title of Nova Fuelle Faustinine, in imitation of that which was created by Augustus for the mother of the empress. (See Antoninus.) We should not omit to mention, in opposition to the accounts of Capitoins and Dion Cassius, that the emperor extols the obedience, affection, and simplicity of his wife. (Mediat. l. 17.)

Titus Smyrna was the recipient of the display of the rhetorical talents of Aristides, who pronounced on that occasion his declaration in praise of Smyrna, which still exists among his works. Two years afterwards, when Smyrna was ruined by an earthquake, Aristides prevailed with the Senate to name him its ambassador to his own city and to the same bounty that he had already bestowed on other cities. (See Aristeides, Alcius.)

From Smyrna Aurelius passed to Athens, where he appears to have been admitted into the sacred mysteries of the Eleusinian Mysteries. During this visit he published a new antithetic code of law, which was his book on the subject of the ancient seat of learning by founding chairs of philosophy for the four chief sects, the Platonists, Stoics, Peripatetic, and Epicureans; and also a professorship of rhetoric.

The close of the year was signalised by the publication of a new campaign against the Marcomanni, Hermunduri, Sarmatians, and Quadi. His son Commodus accompanied him during these campaigns, which appear to have lasted between two and three years. (See Perseus, Hist. Rec. iv. 13.) After a short illness, at Vindobona (Vienna), in his fifty-ninth year, having reigned ten years alone, and nine with his colleague. His loss was regretted by the whole empire; he was ranked amongst the gods, and every house in the senatorial order, and a statue of his appeared in the temple of Augustus to the appointment of Julian to govern Gaul, A.D. 356. 4. De Vita et Moribus Imperator Romano-rum, or Aurelii Victoris Epitome, another history of the emperors, from Augustus to the death of Theodosius the Great, a.D. 7.18.

All these are not written by the same person is generally acknowledged; by whom they are written it is harder to say. It is pretty well agreed that the 'Origines' is not written by the same person as the 'Illustrissimi', or the 'Cassarum', and some of the materials which have attributed it to Asconius the critic. The 'Illustrissimi Men' has been variously ascribed to Cornelius Nepos, Pliny the Younger, Suetonius, and the true Aurelius Victor, who is the unoubted author of the 'Cassarum'. Of his life barely six things are certain: De Cassar. vi. 5, that he was born in the country, of a poor and unlearned
Charles XII, himself soon after reappeared upon the scene; but all his heroism was less successful to the allies than it had been to the enemies, the Count de Goertz, who almost succeeded in subverting the existing alliances between the European states. He had nearly dissolved the bond between Augustus and Russia, when the death of Charles XII, occurring on his way to Congress, led to a conclusion the structures of war and of political intrigue.

The restoration of Augustus to the throne of Poland assassinated the ill of that unhappy country. If Stanislaus had been raised to the throne by the dictation of a foreign power, Augustus was a firmer, more relied upon Russian support, and who first placed the country at the mercy of surrounding states. Unable to rely on the Poles, Augustus endeavored to defend his authority by skillful manipulation of. Every thing succeeded; and the means by which these were terminated were as disastrous as the ill they remedied. It was first decided that the Saxon soldiers should evacuate the country; and on the other hand it was agreed, under the crafty mediation of Russia, that the national army of Poland should be reduced, from near 100,000 to the insignificant force of about 20,000 men. 'These measures of Augustus,' says Maizerowski, 'brought peace to Poland; but it was the peace of Cadiz.'

The interval between 1718, the year of Charles XII's death, and that of Augustus, which took place in 1733, passed away without being marked by any remarkable incidents. The unsuccessful effort of Augustus to secure the throne of Sweden for his eldest son was his only attempt at active policy. A marriage between the king's eldest son and an archduchess of Austria was an opportunity for Augustus to display all his magnificence. The King of Saxony, anxious to be reassured by the European court, diamonds and embroidery had never been seen in greater perfection. But the good people of Dresden could only look with discontented eyes on a scene of magnificence, cruelly contrasted with their own recent and present misery. In addition to this, the recantation of the young prince, and the fear shown by the king to the Jesuits and high Catholic party in Poland, filled the Lutheran population of Saxony with anxious fears for their religious liberties.

Augustus was not beloved by his subjects in either of his kingdoms; each complained that they were sacrificed to the other, while, in reality, both were sacrificed to the vain-glory of the prince. In Saxony, however, his profligacy was favourable to the arts; and the porcelain manufacture of Saxony (the rage with the princes of that day) may be said to have been founded in his reign. Poland had not even this trifling recompense. Such were the miserable results of the reign of a monarch who possessed personal excellence and the highest and mental talents in no mean degree. Like Louis XIV, his model, he was the hero of courtiers rather than of soldiers—beginning his career with mighty plans of empire, and saved at length from ruin merely by the kindness of fortune. At once a gallant courtier and a dandy, his personal qualities tempered the run of the kingdoms over which he ruled, while the gorgeous luxury and far-famed magnificence of his person and his court rather aggravated than diminished the mediocrity of his reign.

AUGUSTUS III, son of Augustus II, elector of Saxony and king of Poland, was born at Dresden in 1696. His father, wishing to give him the same accomplishments that he had learned himself, sent him in 1711 to visit the different countries of Europe; but his education from his travels only the love of idleness and pleasure. He returned 'still, indolent, and backward,' says the historian of Saxony; 'good natured, indeed, which served to make up for his defects, the father had at least an aim, in which he may have failed; but the son had neither aim nor purpose to fail in.'

The death of his father in 1733 made Augustus elector of Saxony, and left him at the same time the strongest position in Poland. A Protestant, the Polish nation shrank, it is said, from striving to attain this unsalutary monarchy; but his wife, a daughter of Austria, supplied her husband with ambition, and Augustus became a candidatel to the crown. He was supported by the courts of Vienna and St. Petersburg, and, in 1733, was elected king of Poland. He had yet to be confirmed as King of Saxony and Emperor of the Holy Roman Empire. In 1734 he succeeded to the throne of Poland, and on the 15th of August was crowned in Warsaw. The Polish parliament, however, refused to recognize him, and the king was obliged by France to accept the death of his father. The Poles were meantime engaged in a war with Russia, and the election of Augustus. His competitor Stanislaus was obliged to fly and take refuge in Austria, which he was compelled eventually to abandon, along with his pretensions to the throne of Poland. Augustus, although crowned at Cracow in the commencement of 1734, did not become undisputed monarch of Poland till after the Diet of Partition, held at Warsaw in 1736. Though oppressed by foreign troops, the Poles showed themselves jealous of their king, and constantly watching the approaches of foreign enemies, and for the maintenance of only 1200 Saxon guards within the kingdom. Augustus yielded; and half reluctantly, Poland once more submitted to a Saxon prince.

Up to the time of his accession, Augustus had bestowed his confidence chiefly upon the old companion of his travels, Bulow: but this favourite was superseded by another, Count Bruhl, who henceforth monopolized all authority in Saxony and Poland. Mutual spoliation was the consequence of this. To the south thought of Saxony, the rise of Prussia excited the jealousy of the Saxon house, and insted its ministers one day to oppose Prussian aggression, the next day to imitate it. The probable dissolution of the Austrian empire after the death of Charles the VI, however, gave him an opportunity to establish himself as a new centre of commerce and manufacture. His designs were carried forward by Count Pius Wolfskis's project to conquer Bohemia for Saxony. Bruhl at first abandoned this scheme and league with Austria to support the succession of Maria Theresa. In a little time, however, he was able to obtain the ministerial design, and to scheme the succession of his son-in-law, Frederick, who was to be made master of Silesia. Augustus acquiesced. The Saxon and Prussian troops fought in alliance, but had not been long in the field, when Augustus learned of his minister's death. He at once strengthened Frederick. Soon after, in 1743, an alliance was concluded at Warsaw between England, Saxony, and Austria, for the defence of the house of Hapsburg. The king of Prussia, however, had 10,000 men in Saxony, and it was necessary to oppose him, and make himself master of Dresden, December, 1743; whilst Augustus, with his minister, took refuge in Poland. The truce of 1746, however, restored to him the electorate; and at the same period took place the marriage of Augustus's daughter, Maria Josepha, with the dauphin of France: a marriage from which sprung Louis XVI, Louis XVIII, and Charles X., the present exiled king of France.

The possibility of coping with Prussia, already proved the defeat of the Saxons and their allies, could not keep Augustus or his minister from leaguing once more against Frederick, and even planning to share that monarch's territories with Russia. In consequence of this, Frederick united Saxony and Brandenburg into a federal state, and took the entire Saxon army in its intrenched camp at Prenzlau. Augustus again fled to Poland.

His reign in this latter country was as pernicious as in Saxony. If Saxony was humbled in its pride, stripped of its resources, and ravaged by invading armies, Poland suffered equal injury, though less violence. It was allowed to sink into what Ruhlher calls 'a tranquil anarchy.' Its debts, which were seldom held, were never allowed to come much to a head. The revolution of the Placards in 1738, the republic, Augustus, who was passionately fond of the chase, preferred the well-stocked forests of Saxony to the plains of Poland.

Saxony itself having fallen into insolvency, its monarch became a state of dependence, being Russian, and St. Petersburg became the capital, to which the Pole resorted, rather than to Dresden. Though the supremacy of Russia was allowed silently to establish itself in Poland under the empty government of Augustus. Peoples, preserved. Peace, and order, however, were the only consequences. For his father what Louis XV. was to Louis XIV.; except that Augustus III., though prodigal and luxurious, was no sensualist. Ruhlher even reproaches him for his stupid even to his officers and soldiers, and taking it for his historian's own ideas of morality. Augustus III. ascended at Dresden, in October, 1763.
birds of the family Alcas, known scientifically as species of the subgenus Alca, Pratercula, Mergus, and Phalaeis.

Subgenus Alca.

The true Aucks, those we see strictly oceanic birds, are not seen except for the purposes of reproduction, will sometimes proceed swiftly, though awkwardly, on foot when pursued on land. They breed in large colonies, in caverns and rocky cliffs, laying only one disproportionately large egg. Their food, which they obtain by diving (an operation in which they are materially assisted by their wings as well as by their feet), consists of small fishes, crustaceans, and other marine animals. The young are said to be fed from the crops of the parents, not only before they are able to leave the place of their birth, but also for some time afterwards.

The genus Alca, as it is reduced by modern ornithologists, includes but two species, apparently incongruous. The first of these, the Great Auk (Alca impennis, Linn.) remarkable for the imperfect development of its wings, seldom leaves the arctic circle and the regions bordering on it, and it is a rare visitor to the British isles. Dr. Fleming, however, gives an account of one taken alive at St. Kilda.

[Alca impennis]

(where they are sometimes known to breed), which, even with a long and heavy cord tied to its leg, swam under water with extraordinary speed. The power of the apparently useless wings as organs of progression was still more strongly shown in the Great Auk chased ineffectually by Mr. Bullock during his tour to the Northern Isles; for the four oars of the bird are said to have left the secured boat of his pursuers far behind. According to the same authority, only a single pair had been known to breed in Pape Westray for several years. Newfoundland is recorded as one of their breeding places, and Pennant relates that the Equim aesthetics who frequented the island wore clothing of their skins. In the ocean that washes the Feroes Isles, Iceland, and Greenland, where they dwell in great numbers, they may be frequently seen on the floating ice; but Pennant says that they are observed never to wander beyond soundings, and that seamen direct their measures according to their appearance.

The feet of the Great Auk consist principally of fish; and the Lump-fish (Cyclopterus lumpus) is said to be its favourite morsel.

The length of the bird is somewhat under three feet. The winter plumage, which begins to appear in autumn, leaves the cheeks, throat, forepart, and sides of the neck white. In spring, the summer change begins to take place, and confines the white on the head to a large patch, which extends in front and around the eyes; the rest of the head, the neck, and upper plumage is of a deep black. There is a specimen of the bird in its summer dress, in the British Museum, with 'Pape Westra' on the label. The Great Auk breeds in June and July, laying one egg, about the size of a swan's, of a whistful-yellow, marked with numerous lines and spots of black, which have been supposed to bear some resemblance to Chinese characters.

In the Black-billed Auk, Razor-bill, or Murre (Alca torda, Linn.), the development of the wings is carried to the usual extent necessary for the purposes of flight, though the bird uses them with great effect as oars when swimming under water.

The northern hemisphere, where they are widely diffused, is the portion allotted to these birds; but it is in the higher latitudes that they swarm. In England, the Needles, and other adjacent precipitous cliffs, have a fair share of them; and here, as in other places, the 'dreadful trade' of taking their eggs, which are esteemed a delicacy, for salads especially, is carried on. In Ray's Willoughby, the habits of the Razor-bill are thus described: It lays, sits, and breeds up its young on the ledges of the craggy cliffs and steep rocks by the sea-shores that are broken and divided into many as

[Alca torda]

it were stairs or shelves, together with the Collerneb and Guillemon. The Manks-men are wont to compare these rocks, with the birds sitting upon them in breeding time, to an apothecary's shop—the ledges of the rocks resembling the shelves, and the birds the pots. About the Isle of Man are very high cliffs, broken in this manner into many ledges one above another, from top to bottom. They are wont to let down men by ropes from the tops of the cliffs, to take away the eggs and young ones. They take also the birds themselves when they are sitting upon their eggs with snares fastened to the tops of long poles, and so put about their necks. They build no nests, but lay their eggs upon the bare rocks.

On the coast of Labrador they abound, and the thousands of birds there killed for the sake of the breast feathers, which are very warm and elastic, and the quantities of eggs there collected, amount to almost incredible numbers.

The summer and winter dress of the Razor-bill, though different, do not vary so remarkably as the plumage of many other birds. In the summer dress, the white streak which goes to the bill from the eye, becomes very pure; and the cheeks, throat, and upper part of the front of the neck are a deep blackish, bordered with reddish. In winter, the throat and fore-part of the neck are white.

The young of the year is, by the best authorities, supposed to be the Alca Pica of Gmelin.

The Razor-bill is little more than fifteen inches long. The egg (for they lay but one) is very large in proportion to the bird, being about the size of that of a turkey, but of a longer shape, pointed towards the smaller end, white or sometimes yellowish, blotched, and streaked with dark brown, chiefly towards the larger end.

Subgenus Pratercula.

Leaving the true Aucks we come to the genus Pratercula Briss. (Mornon. Illugu.), of which the Labrador Auk, common Puffin, or Collerneb, Pratercula Arctica, Mornon O 2

(Auka tods.)
but there is little doubt that other fishes and crustaceans are acceptable to the bird.

Subgenus Mergusulus.

The Little Auk, Common Roach, or Sea Dove, Mergusulus Melanoleucus of Ray, Uria Alia of Temminck, and Alia

[Fratercula Arctica.]

Fratercula, Temm., Alia Arctica, Linn., may be taken as an example.

Seldy gives the following account of the habits of this bird, and is corroborated by others who have written on the subject: 'Although the puffin is found in very high latitudes, and its distribution through the arctic circle is extensive, it is only known to us as a summer visitant, and that from the south, making its first appearance in the vicinity of its breeding stations about the middle of April, and regularly departing between the 10th and 20th of August for the southern coasts of France, Spain, and other parts of Europe, where it passes the remainder of the year. It breeds in great numbers upon Fiordholm Island, off the coast of Anglesoo, on the Isle of Man, and most of the islands, indeed, of the English and Scottish coasts. Many resort to the Feroe islands, selecting such as are covered with a stratum of vegetable mould; and here they dig their own burrows, from there not being any rabbits to dispossess upon the particular islets they frequent. They commence this operation about the first week in May, and the hole is generally excavated to the depth of three feet, often in a curving direction, and occasionally with two entrances. When engaged in digging, which is principally performed by the males, they are sometimes so intent upon their work as to admit of being taken by hand, and the same may also be done during incubation. At this period I have frequently obtained specimens, by thrusting my arm into the burrow, though at the risk of receiving a severe bite from the powerful and sharp-edged bill of the old bird. At the farther end of this hole the single egg is deposited, which in size nearly equals that of a pullet, and, as Pennant observes, varies in form; in some instances one end being acute, and in others both equally obtuse. Its colour when first laid is white, but it soon becomes soiled and dirty, from its immediate contact with the earth; no materials being collected for a nest at the end of the burrow. The young are hatched after a month's incubation, and are then covered with a long blackish down above, which gradually gives place to the feathered plumage, so that at the end of a month or five weeks they are able to quit the burrow, and follow their parents to the open sea. Soon after this time, or about the second week in August, the whole leave our coasts, commencing their equatorial migration. At an early age the bill of this bird is small and narrow, scarcely exceeding that of the young Razor-bill at the same period of life; and not till after the second year does this member acquire its full development, both as to depth, colour, and its transverse furrrows.

In rocky places (Dover cliffs for instance), they deposit their single egg, as Montagu observes, in the holes and crevices. The length of the bird is about twelve inches. The half of the bill nearest the head is bluish, the rest red. The corners of the bill are black, the legs and feet are orange. The plumage is black and white, with the exception of the cheeks and chin, which are sometimes grey. The young, pecked with spars, are by some called dainties; they are also occasionally potted in the north.

Brips are supposed to be the principal food of the puffin;
AULIC COUNCIL (Reichshoheit), the name once given to the personal council of the emperor of Germany, which was distinct from the imperial chamber, or Reichskammergericht, which was the supreme tribunal of the German empire. [See Imperial Chamber.] The Aulic Council consisted of a president, a vice-president, the co-chairman of the council, and eighteen councillors, six of whom were chosen by the Holy Roman emperor, those chosen by the emperor, when unanimous, were considered equal to those of the rest. The nomination of the Aulic Councillors belonged to the emperor, who paid them, with the exception of the vice-president, who was appointed by the Holy Roman emperor, from the highest ranks, from the nobility and the gentry. There was no question of the independence of the Aulic Council. The Council ceased at the death of every emperor; and the new emperor made a fresh appointment. The decisions of the Aulic Council were submitted to the emperor for approbation, by which they became law. Kühler, in the first volume of his Memoirs, compares the Aulic Council to the old French Parliament, with this difference, that the former could not make remonstrances to the sovereign, and did not register any other acts but its own deliberations.

At the extinction of the German empire by the renunciation of Francis II. in 1806, and the establishment of the Confederation of the Rhine under the protection of the French empire, the Aulic Council was abolished.

There is, however, an Aulic Council at Vienna for the affairs of the war department of the Austrian empire; it is called Hofkriegsrath, and consists of twenty-five councillors. Some of the various boards or chancelleries of state are for the affairs of Bohemia, Hungary, and Transylvania, Italy, and Galicia, are styled Aulic Councillors, but are inferior in rank to the councillors of state, of which latter two sat at the head of each board. (Austria at the Congress of Vienna, 1812.)

AULIS. [See Eorpois.

AULUS GELLIUS. [See Gellius.

AUMALE. CHARLES DE LORRINA, DUC D' Aumale, from a branch of the ducal house of Lorraine, which had settled in France in the sixth century, when it was possessed of the seat of Aumale. His father, Claude d'Aumale, was governor of Burgundy, and uncle to Henry Duke of Guise, the head of the League. [See Guise.]

Charles d'Aumale entered into the party of the League, which, under pretence of suppressing the Huguenots, aspired to the supreme power. He was the means of separating Picardy and Normandy from the League.

After the assassination of the Duke of Guise, in December, 1560, he was the first of the cardinals and bishops of France to enrich his followers by the revenues of his benefices. D'Aumale in 1569 took possession of Paris, from which King Henry III. had been obliged to retire, and he dissolved the parliament by force, and sent its members to the Bastille. Shortly afterwards he marched from Paris to Normandy, and was defeated by the Countess of Paris at the battle of Ivry, he left the capital. After the surrender of Paris to Henry IV., D'Aumale joined the Spaniards, who had invaded the province of Picardy, for which he was afterwards guilty of the most atrocious cruelties, and sentenced to be broken on the wheel, which sentence was executed in effigy the 24th of July, 1595. D'Aumale, however, continued to reside abroad, chiefly at Flanders, enjoying the favour of the Spanish government. He died in Brussels in 1631, in the seventy-seventh year. (Leclerc, Histoire de France pendant les Guerres de Religion.)

AUNIS, one of the former provinces or military government of France; it was attached to the French kingdom, and was placed in those divisions. It was bounded by the coast on the W., on the N. by Poitou, from which it was separated by the river Sèvre (distinguished as the Sèvre Niortaise), and on the E. and S. by the province of Saintonge. It is watered by the Sèvre just mentioned and the Charente. These rivers, rising in the more inland provinces, pass through Aunis in their course to the ocean. The soil is generally dry, but it produces corn, and grapes, from which good wine and brandy are made; while the marsh-y tracts produce a pasturage of the most excellent kind. There is little wood. The salt marshes, which are considerable, yield salt of the best quality; but their exhalations are prejudicial to the health of the inhabitants. The district is supplied with all the necessary salt from certain ports which it possesses, render it commercial and wealthy. The chief article of export is brandy: but the cod-fishery, and the colonial and coasting trade employ several vessels. The coast abounds in shell-fish, of species that are not very common; and the mussel-fishery (poissons des moules) brings in considerable profit. The salt is of three kinds, white, grey, and reddish; the first is the most esteemed.

The maps differ considerably in giving the boundaries of Aunis. Some contrast the province so far as to exclude the town of Rochefort, which is on the northern bank of the Charente; while others make the Charente the southern boundary of Aunis, and so include Rochefort. The map given in the Atlas to the Encyclopédie Méthodique extends the province still farther south to the Gironde; for the district of Brouage, which formerly appertained to Saintonge, was disembodied from that province and joined to Aunis, which thus included all the sea coast between Poitou and Guinane, together with the islands of Ré, Aix, and Oleron. The district of Brouage seems to be productive in salt, as also the isle of Oleron. The isle of Ré produces wine; but is ill-provided with wood, and is not fruitful in corn.

The chief town of Aunis was La Rochelle; and to this we may add Rochefort and Marennes as next in importance.

The province is now comprehended in the department of Charente Inférieure (Lower Charente). (Malte Brun; Encyclopédie Méthodique, 'Géographie Moderne,' article Aunis.)

AU RAN TIA CEE, or the orange tribe, are dicotyledonous polygamous plants, with dark-green jointed leaves, filled with fragrant essential oil collected in little transparent dots, and a superior ovary changing to a succulent berry, the rind of which is also filled with fragrant essential oil. No natural order can well be more strictly defined than the orange tribe, and none have properties more uniform and definite. It consists of trees or shrubs found exclusively in the temperate or tropical parts of the Old World, and unknown in a wild state in America; their flowers are usually odoriferous, and their fruit is usually some shade of yellow. They principally differ from each other in the number and proportion or arrangement of their stamens, in the number of cells or seeds in the fruit, and in the texture of the rind of the fruit, which does not always come off as in the oranges, but often leaves some adhering to the rind, forming a few tough, but frequently a mere skin inclosing the pulp. The natural order which is most nearly allied to the orange tribe is that called Xanthophyceae, into which the oranges pass by their climbing genus, Laronga, and which differ principally in having a hard dry fruit which splits into several carpels.
soldier; tall, handsome, and strong, skillful and diligent in all athletic and military exercises, temperate in his habits, and of acute intellect, he rose from his humble state to the highest military offices, during the reigns of Valerian and Claudius. It is a thrilling circumstance, but not unworthy of notice, as illustrative of the qualities which could be found in a general at that time, that the boys used to bring to the following odes in praise of his personal prowess:—

1. Mille, mille, mille, mille, mille, mille, decem milles; Utus homo mille, mille, mille, decem milles; Mille, mille, mille, mille, mille, mille, mille, mille.

These having habituated him to push before himself. He was distinguished by the soldiers from another Aurelian, also a tribune, by the characteristic epithet 'sword in hand' (manus ad ferrum). As an officer, his discipline was strict even to severity. He wrote to his lieutenant: "If you want me at the tribune, or to live, keep the soldiers in order. Let no one steal another man's bowl, nor touch his sheep. Let none plunder grapes, nor injure cornfields. Let none exact re, salt, or wood. Let each be content with his own rations. Let each get rich from the booty of the enemy, not from the tears of the provincials," &c.

On the death of Claudius, honourably distinguished by the appellation of Gothic, a.d. 270, Quintillus, brother of Claudius, assumed the purple, but resigned it by a violent death in the end of seventeen days, on hearing that the legions of the Danube had raised Aurelian to the imperial dignity. The new emperor suppressed an insurrection of the Suevi and Burgals, and compelled them to retreat to the northern side of the Danube; but he withdrew the Roman troops from the province of Dacia, and thus doubly strengthened the frontier of the empire by rendering the Danube its boundary, and by abandoning a district too distant to be easily defended, and too thinly peopled to defend itself. He engaged Aurelian was recalled to the north of Italy, by an invasion of a German tribe, the Alemani or Marcomanni. After various alternations of success, among which we may notice a battle near Placentia, in which the Roman troops were defeated and the right wing of the enemy was entirely cut off, a.d. 271. Aurelian then visited Rome, punished with a ferocious severity the authors of a sedition which had disturbed the city, and repaired the walls, including an additional space within their limits. The temples at Rome were owing to the "Monetarii, a body of men, explained by Poccius to be the coiners, a set numerous and united enough to raise seditions; to support which, he refers to the passage of Butropius (lib. i.). Aur. Victor also says that the "monetarii rebellarierunt; got up a rebellion. These monetarii were apparently the persons who managed the public coinage, which they had probably debased for the sake of their own profit. We know that Aurelian afterwards issued a new and improved coinage. See Gibbon (ch. xi. 494). He also puts a stop to the rebellion after the event, puts it after the defeat of the Alemani; Butropius and Aur. Victor do not fix any time.

Aurelian at this time was master only of the central portion of the Roman world. Under the weak and uncertain princes who preceded the energetic reigns of Carus and Aurelian, a multitude of contingents for empire started up, who fell one before another, or maintained, in these several districts, a short and anomalous independence. Of these, the last and most powerful were Tetricus and Zenobia, who respectively held the extreme west and east of the Roman empire. Spain, Gaul, and Britain owned, in name, the authority of Tetricus; but he was little more than a puppet of a monarch, in seeming possession of a power which he could exert in vain. Aurelian, however, did not rest content with his enemies, but resolved to relieve him from this splendid misery, and betray his own army into a defeat near Châlons, in Champagne, while himself, with a few friends, took refuge with his more fortunate competitor. Spain and Britain acknowledged the imperial power of Tacitus. Greatly distinguished by the year 271, contrary to most other historians, who make them subsequent to the fall of Zenobia. (See Vopseca, cap. 30.)

The west being secured, Aurelian beheld himself to that work which his numerous and victorious victories had rendered the object of his ambition; the reduction of the great, flourishing, and short-lived city of Palmyra. [See Palmyra, Odenathus, Zenobia.] Odenathus, who had raised his native city to this height of power, was dead, and succeeded by his widow, the celebrated Zenobia, a woman of the most resolute and masculine talents. The march of Aurelian was now extended as well to the east as to the west. In his route through Libya and Tunisia...
Aurélien was already returned to Europe, when he heard that the Palmyrenians had revolted, and massacred the small garrison of six hundred archers whom he had left in charge of their city. He returned in wrath, and exceeded even the emperor himself in severity on those who had offended. On his way to Persia, he drowned his troops in blood, and conducted his army in the inhospitable deserts which surround the oasis of Palmyra. Zenobia felt resistance to be hopeless, when Probus, to whom the re-conquest of Egypt had been entrusted, brought his victorious army to the assistance of the emperor; and she tried to escape, but was intercepted on her way to Persia, and brought to the Roman camp. The soldiers clamoured loudly for her death. Aurelian refused to shed female blood; but he took his revenge on the women themselves, who had incited their countrymen against him, by periwigging the celebrated Longinus, who had been Zenobia’s instructor in Greek literature. The city surrendered soon after the capture of its mistress, A.D. 273, and was treated with comparative clemency, being neither plundered nor destroyed.

Aurelian was recalled a third time to the East by a rebellion in Egypt, excited by Firmus, a merchant who had acquired immense wealth by commerce in India. This was immediately quelled, and Egypt restored to peace. He now cleared the Roman empire of all rivals and pretenders to independence, and restored it to its ancient limits, he returned to Rome, where he celebrated his various victories with a triumph of more than the usual magnificence. The details will be found in Vopiscus, chap. 33, &c.

After the ceremony the emperor visited Gaul and Illyricum; but his stay was short, for in a few months from the date of it we find him leading an army against Persia, to recover the country which he had surrendered. His march between Heraclea and Byzantium he was assassinated, in consequence of the treachery of one of his secretaries, named Mæstherus, whom he had threatened with punishment; and the emperor’s threats were known seldom to be without effect. Two of the chief officers of the army ostensibly devoted to death; and the restless character of Aurelian caused the fraud to be readily believed, and promptly acted on. The conspirators were those whose stations gave them a right to be near his person; he was murdered in October, 274 (in 273, according to some), after reigning from five and a half to six years, according to Vopiscus and Aur. Victor. Gibbon, without quoting his authority, makes it four years and nine months. He left a single daughter, whose descendants remained at Rome when Vopiscus wrote.

Aurelian is ill-described by Eutropius as of a character necessary on some occasions rather than lovable on any; but harsh on all. Yet he had many qualities noble and valuable in a ruler: he was frugal in his expenses, temperate in his pleasures, moderate in providing for friends and adherents, strict in preserving good order, and resolute in repressing peculation, and punishing those who grew rich on peculation and the spoils of the provinces. But these good qualities were obscured by a temper naturally harsh, and trained by a long and exclusive course of military service into total carelessness for the sufferings of others; insomuch, that the Emperor Diocletian, himself not over inclined to compassion, said on that account that Aurelian was better suited to command an army than an empire. (Vopiscus, in the Historia Augusta; Eutropius; Aur. Victor; Gibbon, c. xii; Crevier, Histoire des Empereurs Romains, vol. vi.)

Vopiscus informs us (cap. i.) that his Life of Aurelian was founded on Greek authorities (there having been no Latin history of Aurelian before his), and on the Journals and Campaigns of the emperor, which were then kept in the Ulpin Library at Rome.

AURELIUS, MARCUS; or, as he is called on his medals and elsewhere, Marcus Antoninus, was the son of Annius Verus and Domitia Calvina. Verus traced his pedigree to Numa, and Domitia her to Malennius, a Salentine prince; the fathers of both were consuls. Aurelius was born on the 15th of April, A.D. 121, and was named Antoninus Verus. Hadrian, with whom he was a favourite from infancy, familiarly called him Verantius, a distinction which he even then merited. To his natural disposition, habits, and early accomplishments, which it is honourable to the emperor to have perceived and cherished, he owed his adoption into the Aurelian family by Antoninus Pius, who was himself adopted by Hadrian, upon condition that he should adopt Antonius Verus, and the son of a deceased favourite, L. Cneonius Commodus (called, after his adoption by Hadrian, Allius Verus Caesar), who was to have been his successor; this son was named Lucius Verus. [See VERUS.] There was policy, as well as family connexion, in these proceedings. The father of Aurelius dying while he was young, his grandfather took charge of his education, and gave him every advantage which the age he lived in could afford. We learn from himself that he had masters in every science and polite art, whose names and qualifications he has most gratefully recorded, modestly attributing all his acquirements to their instruction and example. (See Book I. of the Meditations.) They were all more or less remarkable for rigid observance of the rules of morality, command of temper, polite conversation, and courteous manners, and were all afterwards rewarded according to their merits and just expectations, two of them being raised to the consulate. These men, therefore, were not only tutors, but models upon which the more perfect character of Aurelius was formed; the foundation of which, however, he piously says was laid by his parents. From what he had heard of his father, he learned modesty and manly firmness; from his mother, piety, generosity, and simplicity of life; from his grandfather, virtuous disposition of mind, and
habitual command of temper. &c. For the art of government, and the manners that give dignity to a ruler, he afterwards studied the public and private conduct of Antonius Pius. Most of the best teachers on these sciences. One of the most distinguished of them, Rusticus, procured him a copy of the works of Epictetus, which confirmed his natural inclination to Stoicism, and became his insepzable companion; he delighted in commenting upon them, and thanked the gods for the grace, the man, and the management with which they had collect wherewith to conduct his life with honour to himself and advantage to his country. The life and writings of the emperor rank him, indeed, amongst the best teachers and brightest ornaments of the stoical school, and have led his life to be judged upon its merits. It would be out of place here to do more than to acknowledge the general excellence of its moral rules, and their universal application as a system of moral philosophy to the use of men of all ranks and conditions in society. From this circumstance, Stoicism had more followers than any other philosophical sect. Much has been said of its extreme severity: perhaps from some of its followers having overstrained its rules, and adopted practices more rigid than are consistent with nature and conformable to reason; but such men are sectaries, and not Stoics. But, admitting its rules to be laid down in an extreme manner, they stand upon the same footing as certain theories in the exact sciences that find their natural limits in practice: the lives of Epictetus and Aurelius, the just limits of the rules of Stoicism, and the proof of their utility to men of all conditions in life, may be found. They were equally adapted to the purposes of these two men, who may be called the extreme links of the social chain. One was a man free from every sin, but that of his own vices by Nero, living in the worst of times, with the worst examples immediately before his eyes, and trusting to chance and his own exertions for education. The other was not only a freeman, but born to command, and enjoying every advantage; yet there is nothing in the lives and practices of these two men contrary to nature and social order, and little or nothing more to be required of either of them than what they performed. They were equally remarkable for their sagacity and generosity, and did it to every respect; and they have each left us the rules by which they governed themselves. [See ARRIAN, and EPICETUS.] The work of Aurelius, which is divided into twelve books, and written in Greek, is generally known by the name of his Meditations. There has been much unnecessary cavilling about its Greek title, τῶν ἡγεσίων, variously rendered 'of and to himself;' or 'concerning himself.' It is a private note-book, kept for a purpose that the critics would have been best pleased to learn out. Aurelius accomplished the arduous task of passing through a life of extraordinary difficulty and temptation with unblemished character. His son entirely failed in it, not from disability, for he was educated as his father, and showed every inclination to walk in his steps, till he became a feeble, tormented, but observant, and controver; till then he must have given satisfaction, for his father thanks the gods that he had found proper tutors for his children. We must therefore infer that education and natural inclination are not of themselves sufficient to keep a man in the paths of virtue without an unmitting discipline. The severest and most important rule of Stoicism relates to self-government, and enjoins daily and hourly examination of all our thoughts, words, and actions. The point of this neglected it, as his book proves; it was his monitor to keep him to his duty; it fully illustrates the efficacy of stoical discipline, and its effect upon the man himself gives it its power. As Aurelius, it enforces the observation: in his education, and a collection of rules, dogmas, theorems, comments, and opinions, put down as they were suggested by passing events, reading, or conversation; sometimes they appear to be preparations for particular cases in which he expected he shall be called upon to act or suffer. They were no regular series, nor have they any relative order, but they all tend to the purposes of morals, discipline, and self-government. When not new, they are placed in a new light. They may be considered as a supplement to Epictetus, and the two together form the best code of moral discipline left to us by the ancient philosophers. This book was first edited in Greek and Latin by Xylander, Zirrelz, 1554, then by M. Casaubon in 1643, much improved; but still more by Gazanfer, Camb., 1652, with some valuable tables of reference. It was re-edited by G. Stanhope, with Dacier's life, London, 1697, 1704. An edition by J. M. Schulz was published at Schleswig, 1802; and another by Coray, Paris, 1816. The English translations are by M. Casaubon—seven editions between 1634 and 1702; the reader is con- fused by his explanations of his own language as he goes on: by J. Collier, remarkable for its vulgarity; by J. Thomson, 1747. Anon., Glasgow, 1749, harshly literal; and by R. Graves, 1792, said to be the best, but very bad. The events of Aurelius's life are marked by wise and prudent conduct. He passed through all the offices usually given to persons of his rank and pretensions, and as he most punctually attended to his duty in them, he obtained those facilities as a man of business for which he was remarkable. In his fifteenth year the daughter of Cn. Commodus was betrothed to him by the desire of Hadrian, but the union was dissolved by Antonius Pius after Hadrian's death. His adoption by Antoninus Pius took place in his eighteenth year, when he was named Marcus Aurelius Aurelius. After the death of Hadrian he married his cousin Faustina, daughter of Antoninus Pius, a lady whose conduct was not calculated to promote his happiness, and though he had ample cause, he refused to divorce her. Upon the death of his new father in 181, he took the name of Antoninus, and immediately associated Lucius Verus with himself as partner in the empire; he also gave him his daughter Lucilla in marriage. This last and highest office Aurelius accepted at the request of the senate, much against his inclination; but having accepted it, he never suffered his fondness for study and philosophy to interfere with his public duty. A troublesome reign ensued, beginning with inundations, earthquakes, famine, and pestilence, causing universal distress, which it required extraordinary exertion to alleviate. The life of a man, whose object was peace was almost entirely occupied by war, owing to former emperors having conquered more countries than they could unite in one empire. This was only making as many enemies, open and concealed, as conquerors. The safety of the empire, however, now depended upon its keeping all its provinces, for if its inability to do so could be proved, common cause would be made against it, and its destruction would follow. Hence it became the duty of Aurelius to put down the insurrections that broke out in all quarters. This he did by activity, fortitude, and a prudent choice of his lieutenants: he was everywhere victorious; and he took the best means in his power to make his victories effective, by showing mercy and clemency to the conquered, endeavouring there-
The calamities in Italy were not ended when the Parthian war broke out. Verus took the command in this war, and returned victorious, a.D. 166, but brought the plague with him to Rome. (See Verus.) Calpurnius Agricola was sent against the Britons, who threatened invasion; and Aurelius Victorinus against the Catti. The two emperors soon after marched together against the Marcomanni, and obliged them to sue for peace. In returning from this expedition Verus died, a.c. 169. In the year 174 Aurelius was com- pelled to come to the relief of his more successful succes- sors. During this campaign a battle was fought with the Iazyges on the frozen Danube: and in the year 174 an event happened which has given rise to much contro- versy, though we are not quite sure of the cause of it. It is said that Aurelius, being unwarily drawn into a defile by the Quadi, was nearly overcome by the attacks of the enemy, whom, from the nature of the place, the Romans could not resist, as well as from fatigue, the usual evil of autumnal campaigns. The victory was so great, however, which they had not tasted for some days. From this difficulty they were suddenly relieved by a violent storm, that fell lightly on them, and gave them an opportunity of refreshing themselves, while it directed its fury against the enemy, showing them, as some say, the lightning, to which others add wildfire, actually destroyed towns. The Romans took advantage of the storm, and gained a victory. Upon this, some unlucky legends, not knowing that the 12th or Thundering Legion was on the banks of the Danube, in such a manner that it happened, took occasion to call it a Christian Legion, and to attribute the miraculous storm to the efficacy of its prayers: and a letter exists from the emperor to the senate acknowledging the fact. This letter is in Greek: no Latin copy has been preserved, but the authenticity can be asserted, and nobody will believe that Aurelius would insult the senate by writing to them in a foreign language, though it may be argued, as it has been, that this is only the substance of the emperor's acknowledgment, and is not substantially the same. (See the letter in Dacier's Life of Aurelius, Stanhope's ed.) But the internal evidence of the letter is perhaps sufficient to destroy its credit. The heathens are also said to have acknowledged the miracle, and to have attributed it between two of their deities, that of Phoebus and the god of grace. (See Episc. Hist. Eccles. iv. 13.) Some attribute it to Antonius Pius; but the charge of persecution is still maintained against Aurelius, especially in the last part of his reign, which I believe to be groundless, to reconcile this with his known character and writings. Censorinus (iv. p. 453) calls him the author of the fourth persecution against the Christians; for the emperor herein declares that they are not for the future to be tolerated for their religious opinions. There is also another letter, said to be written by Aurelius to the council of Asia assembled at Ephesus, upon the subject of the Christians. They are accused in it as far as it proceeds persecution, and confines punishment to civil crimes, and not to opinions. (See Euseb. Hist. Eccles. iv 13.) Some attribute it to Antonius Pius; but the charge of persecution is still maintained against Aurelius, especially in the last part of his reign, which I believe to be groundless, to reconcile this with his known character and writings.

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During his long northern campaigns Aurelius crossed the Danube many times, and Sarissibarbus, with his victories, are commemorated on one of the medals which we have given. But the rebellion of Aquitania Cæsaris in the east compelled the Emperor to return to Rome, and to leave the barbarians of the north in a more powerful position than was con- ceived possible at the time of the former peace.

The clemency, justice, and sound policy of the Emperor were particularly shown in this rebellion of Cæsaris (a.d. 173), who, after a feeble and unsuccessful attempt to get pos- session of the empire, was put to death by his own officers. He would not extend the usual penalties to his family, nor suffer many of his accomplices to be punished; he even destroyed his private correspondence, that none might live in fear, and he induced to continue in rebellion as their only safety. He left the whole matter to the senate, as if it had been an ordinary affair, recommending the greatest clemency, as he was most desirous of sparing himself from all imputation of revengeful feeling. (See Cæsaris, Avidius.)

After the death of Cæsaris, the Emperor made a journey into the east in order to restore tranquillity, which had been somewhat interrupted by the last rebelion. In his visit to Lower Egypt and Syria, he consoled the good- will and affection of his various subjects by his kindness and his affable manners. During his return through Asia Minor, his wife Faustina, who accompanied him, died at a place called Halis, at the time of Mount Faunus, which had long been devoted to the worship of Diana. Aurelius also accorded several honours with the title of Diva. Aurelius also in- stituted a new establishment for young ladies under the title of Novus Paeuli Faustinianae, in imitation of that which was created by Antoninus Pius for the daughters of the mother of the emperor. (See Antoninus.)

We should not omit to mention, in opposition to the accounts of Capitolinus and Dion Cassius, that the emperor extols the obedience, affection, and simplicity of his wife. (Med. i. 17.)

Smyrna, with the Bithynian plain, was celebrated for the rhetorical talents of Aristeides, who pronounced on that oc- casion his declaration in praise of Smyrna, which still exists among his works. Two years afterwards, when Smyrna was ruined by an earthquake, Aristeides prevailed with the emperor to have its streets inhabited by the same bounty that he had already bestowed on other cities. (See Aristeides, Alcius.)

From Smyrna Aurelius passed to Athens, where he appears to have been admitted into the sacred mysteries of Cheiron. During his stay there, his high pre- eminent seat of learning by foundling chairs of philosophy for the four chief sects, the Platonists, Stoics, Peripatetics, and Epicureans; and also a professorship of rhetoric.

The close of his life is described in his book spent in the peaceful retirement which he loved, but in the midst of a northern campaign against the Marcomanni, Hermurundii, Sarmatians, and Quadi. His son Commodus accompanied him during these campaigns, which appear to have lasted two years, and lost two of their children. (See Cæs. cap. 42.) The Antonine column at Rome commemorates the miraculous shower in the historical sculptures on its shaft. (See Antonine Column.)

This letter to the Senate, if genuine, would prove that some of the emperors had been at Iesus, or that the Christians; for the emperor herein declares that they are not for the future to be tolerated for their religious opinions. There is also another letter, said to be written by Aurelius to the council of Asia assembled at Ephesus, upon the subject of the Christians. They are accused in it as far as it proceeds persecution, and confines punishment to civil crimes, and not to opinions. (See Euseb. Hist. Eccles. iv. 13.) Some attribute it to Antonius Pius; but the charge of persecution is still maintained against Aurelius, especially in the last part of his reign, which I believe to be groundless, to reconcile this with his known character and writings. Censorinus (iv. p. 453) calls him the author of the fourth persecution against the Christians; for the emperor herein declares that they are not for the future to be tolerated for their religious opinions. There is also another letter, said to be written by Aurelius to the council of Asia assembled at Ephesus, upon the subject of the Christians. They are accused in it as far as it proceeds persecution, and confines punishment to civil crimes, and not to opinions. (See Euseb. Hist. Eccles. iv. 13.) Some attribute it to Antonius Pius; but the charge of persecution is still maintained against Aurelius, especially in the last part of his reign, which I believe to be groundless, to reconcile this with his known character and writings. Censorinus (iv. p. 453) calls him the author of the fourth persecution against the Christians; for the emperor herein declares that they are not for the future to be tolerated for their religious opinions.

Aurelius Victor. Four books are commonly published together under the name of Aurelius Victor. "Origo Gentis Romanorum," an imperious work, beginning with Janus and Saturn, and going down to the foundation of Rome. 2. "De Viris Illustribus Urbis Romae," which contains short biographies of the most illustrious Romans, with a few foreigners, from Romulus down to Pompey. 3. "De Caesaribus," to the death of Tiberius. 4. Augustus to the appointment of Julian to govern Gaul, a.d. 356. 4. "De Vita et Mortibus Imperatorum Romanorum," or Aurelii Victoris Epitome, another history of the emperors, from Augustus to the death of Theodosius the Great, a.d. 395.

That all these are not written by the same person is generally acknowledged; by whom they are written it is harder to say. It is pretty well agreed that the 'Origo Gentis Romanorum,' is not written by the same person as the 'Illustrious Men,' or the 'Caesars;' and some of the recent critics, who have attributed it to Asconius the critic. The 'Illustrious Men' has been variously ascribed to Cornelius Nepos, Pliny the Younger, Suetonius, and the true Aurelius Victor, who is the undoubted author of the 'Caesars.' Of his life we hardly say anything: he tells us that he was born in the country, of a poor and unlearned
father,' and it is conjectured, from his abundant praises of Alba, that he was a native of that province. The 'Cassars' seems, on the evidence of a passage written in the present tense, to have been composed about the year 359; and there are other grounds for supposing that Victor was alive at that time. It is said in Ammianus Marcellinus (xxxii.) that the Emperor Julian 'appointed Victor the historian prefect of Pannonia Secundaria, and honoured him with a brassen statue, and that some time after he was made prefect of the city. Now there is an inscription extant, from which we learn that Aurelius Victor was prefect of the city in the reign of Theodosius; and it is probable that these two notices refer to the same person. We also know that Aurelius Victor was consul with Valentinian, A.D. 369. This brings us to consider who was the author of the 'Epitome,' which extends to the death of Theodosius. In all the titles prefixed to the MSS., it is mentioned as 'Epitome ex libris.' brevissimis ex libris.' Socit. Auct. Victores; and Mad. Dacier thinks that it is really an epitome, taken partly from other sources than the 'Cassars' of Victor, which she believes to have come to us imperfect, and to have extended to the reign of Theodosius. This opinion is counteracted by those being no formal conclusion to the work as it now stands. Nor is it impossible, nor indeed improbable, supposing Victor to have lived in middle life between the years 359 and 369, that he may have lived and continued his work down to the end of Theodosius's reign in 392, when the Epitome ends.

Neither the style nor the contents of these books entitle the author to a high place among historians. The most important portion is that which contains the history of the empire down to the reign of Constantine, and those of Schott, Guener, Arnstinen, i.e. The most modern which we have seen noticed is that of Schönböger, Vienna, 1720. Valpy's Delphin edition (vol. i.) contains a collection of notices from various writers concerning the life of Victor, and the authorship of the works bearing his name. See also Moller, 'Dissertatio de Aurelio Victore,' Altdorf. 1805.

AU REUS, or DENARIUS AUREUS, the ordinary Roman coin of gold, was equivalent to twenty-five sestertii. Only a few exist.

Gold was first struck at Rome in the year of the city 447, or 297, before Christ, in the consulship of C. U. Nero and M. Liv. Sebastiani, sixty-two years after the introduction of the coinage of silver. The earliest coin of gold at this time was named a scripulum (scripulum), and went for twenty sestertii.

### Scrupulum


A scripulum was of that age. (See Pliny. Nat. Hist. lib. xxxiii. c. 5.) edit. Daldampus, et Variorum. In other editions, c. 13.) It had the head of Mars on one side, and an eagle standing on a thunderbolt upon the other, with the word 'roma' below; and was marked xx on the back of the head of Mars. Raper (Imprima into the Value of ancient Greek and Roman Money. Philos. Transact. Ist. p. 304.) determines the weight of the scripulum to have been 171 Troy grains, which is the weight of one in perfect condition in the British Museum. Nauseus, as quoted by Eckhel, ('Dctor. Num. Vt. tom. civ. c. 4.) makes the true weight twenty-one grains and one-third. These, as

### A Triple Scrupulum


It appears, are Paris grains (see Eckhel, v. 41); 171 Troy grains being equivalent to 214 Paris grains. Its double was marked xxx, or forty sestertii; and its triple xxx, or sixty, which weighed 52 grains. The symbol which precedes the x on this triple scripulum, indicates L or 50:

Eckhel shows, that on the denarius of Tib. Claudius, and in other cases, the Romans represented 50 by a symbol very like an inverted T.

Pliny proceeds to say that it was afterwards usual to coin forty pieces out of the pound of gold (larger in size, of course, bearing the general name of Aurei), and that the Roman emperors by degrees fixed them forty-five to the pound. In a passage, the corruptness of which is more than suspected, some of the texts ascribe this last change to Nero. Alexander Severus coined pieces of one-half and one-third of the aureus, called Semis and Trigintis. E. L. Longinus, in 'Africa, Sertorius Vat. cap. 39,' whence the aureus came to be called solidus or solidus aureus, as being the integer.

Soon after the reign of this prince the coinage became very irregular, till Constantine entirely new-modelled it by coming aurei of seventy-two to the pound of gold (see the Codex Theol. de Ponderatoribus, § i. Cod. Justin. 1. 13. 70. de Susceptoribus § 5.) a more convenient number than either or forty-five, as it divided the ounce and half ounce without a fraction.

Eckhel from Nauseus (Dctor. Num. Vt. tom. c. 4.) states the variations of weight of the aureus between the year 317-5 of Rome and Caracalla's time into eight epochs, varying in the respective coins from 133 to 125 (Paris) grains. That the estimates are correct may be gathered from the following facts. Inscriptions, of gold denarius, are in a state of high preservation in the British Museum. An aureus of Julius Cesar weighed 123 grains, which is exactly the weight of an English sovereign. Out of twenty-five gold denaries of Augustus, one weighed 115 grains, five weighed 124 grains each; one 125, one 127, and one 129. Of fifteen aurei of Nero, four weighed 111 grains, two 114, two 116, two 118, one 119, one 120. An aureus of Maximianus I. weighed 81 grains, Carac- sius 67, and Maxentius 79. The coin of Carausus, of which a copy is here given, is believed to be unique. (Rev. Mr.

Cracherode, who bequeathed it to the British Museum, bought it at the price of 120. Of the aurei of Constantine in the Museum, there are 66 grains, three 67, three 69, one 73, and one 81. The highest weight is possible in coins struck before Constantine's re-arrangement of the coinage. All here mentioned, as far as can be ascertained, are of gold without alloy.

The average weight of the aurei of Augustus, then, appears to have been nearly 121 grains, that of Nero's aurei nearly 117.

Raper says the Consular aurei weighed at a mark 126 grains. Some of the Family aurei in the Museum weigh 124, 124, and 125 grains.

The following is Lemorne's table of the mean weight of Aurei, transferred into Troy grains:

### Table of Mean Weight of Aurei, Transferred into Troy Grains

<table>
<thead>
<tr>
<th>Roman Grains</th>
<th>Troy Grains</th>
</tr>
</thead>
<tbody>
<tr>
<td>132</td>
<td>123</td>
</tr>
<tr>
<td>132.25</td>
<td>125.75</td>
</tr>
<tr>
<td>132.45</td>
<td>126.05</td>
</tr>
<tr>
<td>132.65</td>
<td>126.35</td>
</tr>
<tr>
<td>132.75</td>
<td>126.45</td>
</tr>
</tbody>
</table>

(See Lemorne, Considérations générales sur l'Étude des monnaies grecques et romaines, &c. Paris, 1817 at.)

Victors in the ancient races were usually rewarded with aurei. (See Sueviton, Claud. cap. 21 § 10. Justin, nat. v. 24.) The scholar observes that no more than five were allowed to be given in such cases. (Buleng. de Roma.)

The few (probably the maximum) to a lawyer was called a cursum aurei, due Lucian, (D. 1. 12. de or. 2. 4.) A single aureus was all that Justitian permitted to be reckoned at due. (Cest. Capit. de Theorum Trau. et Code. Ludi, op. Græ. Theorum tom. viii. col. 1272.)

The reader who wishes for information upon the aureus.
beyond what is here given, may consult Plinicus, Lexicon t. 210 on return. Elda, D. N., P. 84. vol. 17; P.;—
Pinnez, 

Eaton on Medals, vol. 1, p. 144; and Raper's Inquiry, already referred to.

AURICH, at present a landrostee, or province, of Hanover,
formed, in ancient times, the eastern part of the land of
the Frisians. It is separated from the Zuider Zee, or the
Intracoastal Channel, by a series of banks, the southern
most bank being called the Zuider Zee. The Frisians are
the most northerly point of Germany, and is
bounded on the west by the kingdom of Holland
and the bay of the North Sea, into which the Ems discharges
itself, on the north by the North Sea; on the east by
the Zuider Zee; and on the south by the land of
the territory of Meppen. The whole surface of the province
is a flat, that the Plottenberg, the highest land,
do not exceed sixty feet in elevation above the sea.
The districts adjacent to the North Sea, which washes nearly
three miles from the Zuider Zee, are the most fertile marsh-land in
by the Hanoverian dominions. They are separated from
the interior of the province, which is a series of moors
and heaths, by a tract of sand between two and three miles
in breadth; on the sea side, they are protected against the
winds of Aurich. The provincial domain is six hundred
and nearly one hundred miles in length. The larger vil-
lages in this marsh-land are built upon mounds, thrown
up by the natives; they are clean and airy, but destitute of
trees or other natural shelter. The tenements in the more
hospitable districts are generally surrounded by garden-

Aurich is estimated at 1134 English

inches; on the opposite

side the inhabitants has
converted 351,202 Frisian dinner platinum, out of 325,204, into cul-
tivable land, 49,000 more are barren heath, 7,830 remaining
in the remainder of the province, for the cultivation of
food. The whole extent of woodland is not more than 6800 morgen;
about 3330 acres. The Ems traverses the province in the
south, and in the middle of its course receives the Leda,
whose waters have been increased by the Jumme. The
coast is fringed by banks of sand, varying from four to nine
miles in breadth, and covered by the tide at high-water;
their outer margin is cloistered with a chain of islands, which
are nothing more than masses of sand thinly coated with
grass, and shaded by heath. The northern shores of the
stretch of water is exposed in high winds to the
winds of the ocean. Nordernach, the central island in the chain, is
partially visited in the summer months for the purpose of sea-bathing.
These islands occupy about sixteen square miles of the whole
province, and contain five towns, among which are Emden,
Leer, and Norder; 145 parishes; and, as appears by the
census of 1653, 152,408 inhabitants, who, with the excep-
tion of four congregations of Roman Catholics, and as many
or more Protestants, are for the most part engaged in
considerable grows of grain, particularly oats and rapsaped;
bread great numbers of horses, sheep, and cattle; make
much honey; and are actively engaged in foreign
commerce and the herring-fishery on the North Sea.
Their export of fish amounted in 1568, to
value of 31,187 shillings, its gross proceeds sold is computed at
7,666,311 dollars, or about 1,054,140 per annum.

There are no people in Europe who showed greater jen-

from their independence in past times, and displayed
tolerable courage in asserting it, than the East Frisians.
Their Chieftains were elected by the free citizens of the
their empire, pre-eminently, the emperor's free subjects;
and they were every way deserving of this title until they
sobered their leaders to surrender their liberties into the
irresponsible hands of the Polish monarch of the fifteenth
century. From this period, until the year 1626, that family
ruled over it as counts, and subsequently to the latter date,
as princes of the empire. The Zirkensgas having
existed in 1744, East Frisian was taken possession of
by Prussia in the year 1766, and the principal town from the
Prussian dominions and annexed it to Holland.
Six years afterwards Prussia, having re-established its
right to it, ceded it to the king of Hanover, who incorporated
it with his states under the name of the Landrostee of Aurich.

AURICH, the capital of the province, as well as of one
of the twelve circles into which the province is divided, is
an open town, situated on the easternmost coast of
which unites it with Emden, from which it is about fifteen miles
distant in a north-easterly direction. It is really built in
the Dutch style, and is embellished with a handsome
palace, the residence of the former princes of East Frisia,
who took up their abode there in 1626. It is, or was, the seat of
the provincial government of the province. It is the seat of justice
and place of judicial record for the province, as well as of
the Protestant Consistory, and once possessed a mint, the
coin struck in which was stamped with the letter D. There
are a great many places of worship, three churches, a high school
or gymnasium recently erected, a poor and orphan house,
four public libraries, and a seminary for the education of
middleclass, in the town. It contains nearly 500 houses, and
between 3200 and 3100 inhabitants, who depend upon internal
traffic, particularly in horses, and a little trade in
brandy, leather, tobacco, tobacco-pipes, and paper,
for their chief subsistence. The canal, of which we have spoken,
is forty feet broad, has three sluices, and is crossed by nine
bridges. Aurich lies in 53° 25' N. lat., and 7° 20' E. long.;
its area is 190 square miles, or 50,342 acres. The
neighbouring village of Rabe is the site of the celebrated
Upstalsboom, or national assembly, which the Frislanders
held in former days.

AURICULA, in horticulture, a kind of primrose, found
with abundant place in the Swiss Alps, where its flowers
are usually of a clear bright yellow; they are sometimes white,
but this is unusual. It has for centuries been an object of
cultivation by florists, who have succeeded in raising from
seed a great number of varieties having but little resem-
lance to the wild flower. The flower is white, or purple or
there is substituted a centre of deep purple or brown,
surrounded by a broad edge of a white, grey, or green powdery
matter, or the whole corolla is of some uniform colour, such
as purple, deep violet, or blue-green; the latter is tech-
nically called sulfa, and although more beautiful than the
powdered kinds, are less esteemed by florists.

In these plants the great object of the grower is to obtain
large clusters, or clusters, of flowers, and clear, well-defined
petals; and the flowers, when fully open, should be
scarlet or yellow. Auriculae are particularly esteemed for
collage in these respects. All the kinds have been pro-
duced by sowing seeds, but there is no flower which produces
more seldom a new variety of merit; and it often happens
that out of some thousand seedlings not one is sufficiently
meritorious to be worth preserving.

Many books have been filled with directions for the
management of the auriculae, and these directions have been
so fully given, that one hardly knows which to admire the
most, the laboriousness of the writers, or the patience of their
readers. As the forms of auriculae are so various, it is not
possible a regular classification of auriculae may be reduced to a
few fundamental principles, the application of which may be safely left to
the good sense of the grower.

The first consideration is under what circumstances the
auricula grows best. It is most at home in the mountains of
all the south and middle of Europe, especially on those of
Switzerland. In those places it might be supposed that it
experiences intense cold in winter; but this is probably not
the fact, for it is covered early in the winter with a thick
coat of snow, under which it continues to flourish; the soil
is then so protected from the severe cold, and screened from the
stimulating effect of light. When the snow melts, it
begins to feel the excitement of brilliant light, and to
unfold beneath a pure and equable atmosphere, perpetually
watered by the pluvial showers of the alpine climate.

The auriculae or auriculae do not resemble the vegetable mould which is kept continually damp by
the melting snow, but never becomes wet, on account of the
steepness of the situations in which the plant delights
to dwell. Under the same circumstances they flower and
perfect their seeds; the drier weather of summer, however,
they cease to grow with vigour, and in the autumn have
reached a state of complete torpidity; they never, however,
become absolutely dry, because of the rains and
storms which the auricula is necessarily exposed to in the
Alpine climate. To sum it up, in the auricula, all the
natural conditions of growth are supplied by gentle warming;
they are left entirely exposed to light and air all day long,
except in cold or stormy weather; and they are supplied with
more and more water as their leaves become large enough to consume it. The pots in which they are planted are half filled with fragments of pottery in order to ensure the free aeration of the roots, and are covered with a layer of gravel which is removed every year. At last, in April, the flowers are about to expand; that period has arrived towards which the anxious hopes of the cultivator have been so long directed; the leaves are fully formed, and are ready to nourish the flowers; the blossoms that have been sprouted in the autumn, by means of a shower of rain or a storm of wind would deface the delicate surface, and tarnish the soft velvety colours in which the beauty of the auricula consists. Greater precautions than ever are now taken for a full and perfect blooming; it is never removed from the table when it is not only elevated at the back to admit the free air, and screened by mats or awnings from the direct rays of the sun. At last the development is completed; the corolla displays its rich surface, and all that care and skill can accomplish has been effected; to remain, however, in a frame but imperfectly ventilated and constantly shaded, would soon destroy the freshness of the colours, produce a general relaxation of the parts, and the blossoms would quickly perish. As soon therefore as the flowers begin to open, the pots are taken from the frame, are placed on slates or boards on the north side of a wall or hedge, and are screened by hand-glasses propped up by pieces of brick or wood so as to admit a free circulation of air, and provide against injury from rain or sun.

When the flowering is past, the auricula has fulfilled its annual function; and even if seeds are required, no further care will be necessary than to place the plants in a northern aspect, in a spot where they are not exposed to constant wet, and where the soil without becoming dry, remains moist enough for the reproductive rocks amply provided for; many persons keep the pots continually on a stage or on tiles, so as to prevent their attracting too much damp from the soil. At last the auricula will sink to rest; seeds will be ripened, its leaves will turn to yellow, and it will flower the succeeding year, and the powers of life will be exhausted; but a winter's rest will enable it in the succeeding year to recommence its annual course with renovated strength.

The main points in the cultivation of it, with reference more particularly to the high-bred varieties, are, moisture, drainage, protection from cold, and full exposure to light and air; if these are properly attended to, no auricula plant can be unhealthy, or fail to flower well; for the leaves will be enabled to execute all their vital functions fully and regularly, and this will ensure the well-being of all the other parts.

But the florist will not remain satisfied with keeping his plants merely in health; he requires a vigour altogether proportionate to the beauty of the flowers, and that would have a curious effect when nature unassisted forms but ten; as many as 127 have been obtained in a single cluster. For this purpose rich and stimulating manures are applied; and the most disgustingly refuse of the animal world has been rammed for manure through which many auriculas may be seen to grow. The whole theory of manuring is at present so ill-understood, that it is difficult to say what material is best suited for the purpose; all that we really know, is that manure acts simply by forming carbo acidi, which is the food of plants; and one would suppose, that whatever forms carbo acidi and most readily and constantly would be the most efficient manure. This no doubt explains the cause of the different opinions that are held concerning the best manure for the auricula. One person recommends blood; a second, guano; a third, stable midden; and a fifth mixes all these together: the only thing the growers agreed upon is, that the manure, whatever it be, should be thoroughly incorporated with loam and light vegetable manure, and be supplied at the beginning of the season. The latest writers on the subject recommend the following compost:—

1. One barrow of rich yellow loam, or fresh dug earth from some meadow, or pasture, or common, with the turf well rotten; one barrow of leaf mould; one barrow of well rotted cow manure; one barrel of strong farm dung, two years old at least; and one cart of river sand, not sea sand. (Hooff's Supplement to a Treatise on Flowers, p. 166.)

Besides this, it is found advisable to apply a small quantity of liquid manure three or four times during the growing season. Water in which sheep and horse dung is dissolved is usually employed for this purpose. It would be worth trying the effect of putrid yeast, which is the most active stimulant of vegetation that has yet been discovered; but if this material is used, it should be diluted with water till it acquires the colour and fluidity of small beer.

By means of agents, such as have just been described, an extraordinary vigour is given to the plant, which is infused into the auricula, and splendid flowers are the result; but it is said that such plants are short-lived, and that they rarely recover the effects of the excessive excitement to which they have been subjected. The propagation of the auricula takes place by its lateral offsets, which are produced more or less abundantly according to the healthiness of the individual or of the variety. In the spring, when the plants begin to grow, these offsets will be readily separated from the parent plant, but it is not in their greatest activity; it is at that period, therefore, that the propagation of the auricula should take place; the offsets should be carefully cut from the mother plant, potted in light rich earth, and placed under a hand-glass until they have established themselves; as soon as that has taken place, the hand-glasses should be lifted up and air freely admitted to the young plants, which will, however, still require to be shaded and kept slightly moist, for reasons which the reader will find explained under the article Hand-glass.

All plants cultivated in pots are placed in a most unfavourable condition for growing vigorously and remaining in a healthy state; they not only exhaust the soil, but deplete it of oxygen, and their escape from rain and sun is frequently none without means of seeking fresh food, or of avoiding that which is pernicious to them. [See POTTING.] The only remedy for these evils is to free the roots once a year from all the soil in which they have grown, and to repot them in rich manured soil. This operation should be performed at the same time and in the same manner as is recommended for offsets.

New varieties of the auricula are procured exclusively by sowing the seed; and if this were judiciously saved, a large proportion of all dour would possess sufficient beauty to deserve preservation. In the words of one of the most successful of its cultivators, the auricula is to be bred as high as a race-horse, by a corresponding attention to pedigrees; so little attention is however paid to the true principles of selection that many of the best Auriculas are grown from good variety from some thousand seedlings. What a grower who would breed auriculas, or any other flowers, should bear in mind, are these maxim—

1. All plants that have been obtained by artificial means, have a tendency to return to that wild state from which they have been reclaimed.

2. This tendency is particularly strong when they are raised from seeds, and will be in great proportion to the distance of the parent plant from the most highly-cultivated state.

3. But the tendency may be counteracted by continually selecting the finest and most highly-bred flowers to yield seeds.

The latter are, however, open to the influence of other and inferior varieties, provided they are placed near them at the flowering season.

5. Especially rare should therefore be taken, not only to select for yielding seed the most beautiful flowers of the most perfect varieties, but also to prevent the possibility of wind or insects conveying among them the pollen of inferior specimens.

The seed should not be known as soon as it ripens, but should be kept in the seed-vessel till the succeeding summer, or, in the month of May or June, when they may be sown in a close mould in earthen pans in a box bed frame, and subsequently treated like other seeds of a similar nature.

The marks of a good auricula are, in the opinion of many florists, those that should consist of four principal parts. Namely, the tube, the eye, the ground colour, and the border. The tube should form one-sixth of the whole diameter; the eye, including the tube, one half; and the ground colour, with its border, the other half. The margin of the tube should be about the same width as the tube; the more perfect it is to be esteemed, and the more the flower, that is to say, such as have the lobes of the flower very distinct, being the worst. The mouth of the tube should be well filled by the anthers; the eye should be a little sunk below the mouth of the tube, and of a clear even white; the ground colour must be deep and rich, and well defined next the eye, but towards the border it is to break off regularly and symmetrically into the eiging, which
It is said to be an inhabitant of the East Indies. Lamark also names the Moluccas as its locality.

The following is the generic character—Shell somewhat oval, or ovo-oblong; aperture longitudinal, narrowed above, and with the base entire; pillar with one or more plaits; outer edge either refolded or simple and flat.

The true auricula are the inhabitants of warm climates. There is one in the south of France, near the shores of the Mediterranean (auricula mycrota or Draparnaud), but it is a small one.

AURIGA, the Charioteer, a constellation situated between Perseus and Gemini. It is represented as a man holding a bridle in the right hand and supporting a goat and kids on the left arm. The stars in the body of the goat, called Caelum, receives the name of Aiolos by the Arabs) is of the first magnitude, and presents the best guide to the constellation. There is no satisfactory account of the mythology of this figure. It is said to have been the Horus of the Egyptians; among the Greeks, the human figure is different writers call Hippodamus, &c., while the goat is Amalthea, the foster-mother of Jupiter. This explanation is even more unsatisfactory than most others, owing to the want of apparent connection between the figures of the group.

The stars Capella, never sets in the latitude of Greenwich, and is seen drawn through the higher two (α and β) of the four stars which form the body of the great bear. It is on the meridian at six p.m. early in March, and at midnight in December.
Aurilac has produced several persons of note; among them Gerbert, elevated to the Papacy under the title of Sylvester II.; Cinq-Arce, a Hebraist of some note in the sixteenth century; the Marechial and Cardinal de Nouilles; Pignol de la Force, author of an account of France; and J. B. Carrier, infamous for his atrocities at Nantes during the revolutionary period.

There are some basaltic columns in the immediate neighbourhood of the town, and in the suburbs are two mineral springs.

Aurilac, as already noticed, is capital of the department.

The arrondissement or sub-prefecture of Aurilac extends over 796 square miles, or 509,440 acres, and has a population of about 95,600. (Dictionnaire Universel de la France; Pignol de la Force; Malette-Brun; Balbi.)

AURORA BOREALIS, or northern day-break, so-called because it usually appears at or near the north, and presents a light somewhat resembling that which precedes sunrise.

The phenomena attending the Aurora Borealis are so various, in almost every particular, that no general definition can be given, and till now is more on the subject, any remarkable luminous appearance, towards the northern side of the horizon, taking place between sunset and sunrise, must be considered as entitled to that name. The following description, extracted with abridgment from the French Encyclopaedia, and enclosed in ( ), is an account of the most remarkable appearances of the kind.

In the northern region of the horizon, but often towards the east or west, a horizontal cloud (nubes) rises to some degrees of altitude, rarely more than 40°. Sometimes the blue sky is seen between this cloud and the horizon. It extends along an arc varying from 5° to 100°, sometimes more. It is sometimes whitish and brilliant, but often black and thick. Its upper edge is luminous and irregular, sometimes nearly parallel to the horizon, sometimes curved towards it. The higher part of the cloud has frequently a white and shining edge. After shooting a number of streamers, the darker part of the cloud generally changes, and becomes very luminous. The streamers continue to be shot from the upper edge, sometimes at some distance, sometimes very close to each other. Their light is very dazzling, and might lead a spectator to imagine he saw a shining liquor forced violently out of a syringe. The light is strongest, and the streamer narrowest, near the main body of the phenomenon. Columns of light issue upwards from openings in the main cloud, with a slow and uniform motion, becoming broader as they proceed. Their dimensions and time of duration are various; they are whitish, redish, and sometimes blood-coloured, and after some time the appearance of the whole rainbow, as we shall see, is presented. When several columns, emerging from different points, meet at the zenith, a small and dense meteor is formed, which appears to burn with more violence than either column by itself. This meteor is green, blue, or purple, and afterwards proceeds towards the south in the beam of a small and clear cloud. When the columns cease, the first mentioned horizontal meteor has little more than the appearance of morning twilight, and gradually disappears. The phenomenon lasts sometimes all night, and has sometimes been observed many nights in succession. The horizontal meteor sometimes keeps its place and its appearances unchanged for several hours. Sometimes the whole consists in nothing more than a gradual increase of light in the horizontal meteor, and the whole has been known to take place in a few minutes.

It is evident that the preceding account relates only to the aurora which are seen in very northern latitudes, where such phenomena are most frequent and most splendid.

To show what has been seen in our own zone, we subjoin from the work of M. de Maran on the subject, the two most dissimilar appearances which we can find.

The aurora represented above was seen at Brouclay, on Normandy, nearly in the latitude of Paris, September 28, 1726. It consisted entirely of streamers of light, as here represented, without any darker meteors.

The curious phenomenon represented on the opposite page was observed for several minutes, during an aurora which appeared at the same place, October 19, 1726.

The aurora borealis has been observed in almost every part of the world, but the frequency of its occurrence has varied remarkably from century to century. In England, hardly one such phenomenon appeared in the seventeenth and earlier part of the eighteenth century. Before that of 1716, according to Halley, no such thing had been recorded in England for more than eighty years, and none of any magnitude since 1574. No appearance is recorded in the
Transactions of the French Academy of Sciences, between 1706 and 1716. One recorded in the Berlin Miscellany for 1707 is called a very unusual phenomenon; and the one observed at Bologna, in 1723, was stated to be the first which had ever been seen there.

In the northern regions the frequency of the Aurora Borealis, as seen by travellers, led many to conclude that it was almost, if not quite, perpetual. But Celsius, who published, in 1733, 316 observations made in Sweden between the years 1706 and 1732, affirms the contrary expressly, and says that the oldest inhabitants of Upsala considered the phenomenon as a great rarity before 1716. Anderson, a native of Hamburg, who wrote on the subject about the same time, says, that in Iceland the inhabitants themselves were greatly astonished at the frequent recurrence of the Aurora, which began to take place. Torrefus, the historian of Denmark, himself an Icelander, who wrote in 1706, was old enough to recollect the time when the Aurora was an object of terror in his native country.

It was at one time thought that the Aurora Australis (as we must call it) was never seen in the southern hemisphere. The first account of any such appearance was given by Don Antonio Ulloa, to M. de Mauran. The former being at Cape Horn in 1745, and in one of the thick mists, which he describes as common in that climate, saw, whenever the mist cleared off, a light on the southern horizon, to an elevation of about thirty degrees, sometimes of a reddish colour, sometimes like the light which precedes moon-rise, but occasionally more brilliant. In 1744 an Aurora appeared at Cuzco, which very much terrified the Peruvians, who could with difficulty be persuaded by the Spanish governor that it was not a mark of divine displeasure.

To go back to older times, the Aurora is described by Arnauld (cited by Mairan), as an appearance observed by night in calm weather, and resembling flame mingled with smoke, or the distant appearance of burning stubble. He remarks that the predominant colours are purple, bright red, and blood colour: from all of which, as well as from the whole description (see his work on Meteoras, book i. chapters iv. and v.), there can be no doubt that he faithfully described the subject of this article.

Cicer, Pliny, Seneca, and various more modern writers, make allusions to, or descriptions of, similar phenomena; and there can be no doubt that the fiery appearance of arms fighting in the heavens, described by so many authors as having preceded remarkable events, must have been Aurora Borealis, heightened by the same force of imagination which converted comets into swords and other weapons. And the general terror which such appearances seem to have excited may be considered as adding a presumption to the evidence already produced, that the Aurora Borealis did not by any means occur so frequently before the eighteenth century, as it has done since.

In the work of M. de Mauran, already cited, which is, up to its date of publication (1734), a complete collection of all that was known, we find a table of all the recorded Aurorae from a.d. 563 to 1751. All the observations, including those of the same phenomenon by different observers, are 2127 in number; containing 1441 distinct phenomena. These are as follows:

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<tr>
<th>Year</th>
<th>Number of Aurora recorded</th>
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<tr>
<td>1753</td>
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<td>1745</td>
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<td>1761</td>
<td>1751</td>
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Of these, the numbers observed in the different months were as follows:

- January: 113, July: 22
- February: 141, August: 84
- March: 202, September: 172
- April: 124, October: 212
- May: 45, November: 153
- June: 22, December: 151

During the winter half of the year, 972.

Near the proportion of 2 to 1.

The great frequency of phenomena in the earlier part of the first list doubtless arises mostly from want of records; but partly, it may be presumed, from the fact that many more observations were latterly made in northern climates.

The mean height of the Aurora Borealis was placed by Mauran at 175 leagues (French); but his means of ascertaining this point were very imperfect. Mr. Dalton, from later sources, concludes the average height to be about 100
That the phenomenon is really atmospheric and not astronomic, is presumed from the diurnal rotation of the earth producing no effect upon its apparent position. It has been placed by some above the atmosphere, and Euler supposed it to be at the height of more than 1000 miles above the earth.

The position of the Aurora has, in a majority of cases, been rather towards the west than the east, and it is more frequently seen in calm than in windy nights. Among the great variety of detached reports which have been made upon this subject by different observers, we may notice the following assertions:--that there is always a copious deposition of dew during the phenomenon—that in the English Channel a hard gale from the south or south-east may be expected within two or four hours—that northern lights, very brilliant instances frequently succeed a sudden thaw after very cold weather: but as we have yet no satisfactory theory on the subject, it would be useless to multiply such observations, and we only give these to remind them of a number of facts that all the meteorological circumstances attending them are considered worth noting down.

The rise of the auroral arches is mostly from N.W. to S.E.; but Professor Forbes, in 1826, traced one from the N. to S. These arches, till two or three years ago, were nearly on the horizon in the S.W. This arch did not move in the direction of the magnetic meridian, and was diametrically against the wind. (See Reports of the British Association, vol. i. p. 256.)

The Aurora Borealis is said to be frequently accompanied by sound, which has been variously described, as a hissing, a muttering, a rumbling, and a cracking noise. Murun never heard anything of the kind; but so many positive assertions have been made by other observers, that little doubt can be entertained of the occasional happening of this phenomenon. Pliny speaks of a noise of arms and sound of trumpets heard in the air.

The influence of the Aurora upon the magnetic needle must now be considered as an ascertained fact. It was first mentioned by Fullard in 1724, but Halley and Cotes had previously noticed a similar circumstance. At the same time it does not appear that in every instance the effect takes place. Much discussion has arisen from the fact, that while in one place the needle is violently agitated, in another it is not disturbed at all. In one instance the variation of the needle has been detected at a place where the Aurora was not visible, though it was seen in other parts. [See Magnetism.]

Our knowledge of the electrical phenomena of the Aurora is confined to the observation, that the electric matter may often be readily collected from the air during its continuance; though decided instances have occurred in which this was not the case,--and that a very good representation of auroral light may be obtained by passing the electric fluid through an exhausted receiver.

The Aurora Borealis must be looked upon as a phenomenon well worth observing, than which one has been well observed. The reason is that, till of late years, there has been no concurrence of such as the phenomena to be noted, or the manner of observing them. The British Association has lately directed its attention to the subject, and has published some recommendations (Reports, vol. ii. p. 246), to which we refer all who have occasion to observe. We select those points which do not require unusual apparatus.

1. Whether the Aurora is accompanied by any noise?
2. Whether there are any recurring periods of frequency and brilliancy?
3. What is the position of the phenomenon with respect to particular stars? (These may be ascertained on a globe, and very frequently the stars can be seen through the Aurora.)
4. The time of every phenomenon should be noted, and the phenomenon should be compared with a watchmaker's regulator as soon as possible after the observations.
5. The longitude of the place should be taken from a map.
6. Any person who wishes regularly to watch for such phenomena, should look carefully at the horizon every evening about the time of the setting of the sun.
7. If there is an arch, the positions of its two boundaries should be noted by the way in which they pass among the stars. Notice should be taken whether one edge is better defined than the other; whether there is a clear sky or dark cloud above or below; whether it terminates at the end in sky or in cloud, whether there is any dark band in it; whether, in its general composition, it is uniform or straitened; whether stars can be seen through it.

11. If there are beams or streamers, the time should be noted; then their position among the stars; then their height among the stars; their motion (whether vertical or horizontal); the velocity of motion (by the time of passing from one star to another); their changes; their permanency; whether they appear to affect the arch, or to be entirely in front of it.

12. If there are any black clouds in the luminous region, notice should be taken whether the streamers or the arch seem to have any relation to them; whether and in what manner they increase or disappear.

13. It is useless to observe a common magnetic needle. The one used for this purpose should be suspended by a hair.

The various theories which have been proposed to account for the Aurora Borealis give nothing entirely satisfactory. Halley and Cotes attributed it to the watery vapours of the atmosphere; the former also suggested the effluxus, by which he meant the same time proposed to explain the phenomena of magnetism. Murun wrote the complete treatise already alluded to in his Elements of the Natural History of the Heavens, in which he attributed the sidereal light extended as far as that of the earth, and being driven towards the poles (now, is not very clear) causes the phenomena observed. Euler imagined it to proceed from part of the upper atmosphere, where the electric spark causes the union of the oxygen and hydrogen and forms an electric fluid, the discharge of which he supposed to be the phenomena of the Aurora. The hypothesis of M. Libes is at least ingenious and experimental, and was at one time much adopted. He had observed, that when one of the compounds of oxygen and nitrogen was formed by the combination of the electric spark through a mixture of those gases, reddish vapours were produced, which rose in the air. He found also, that in a mixture of oxygen, hydrogen, and nitrogen, the transition of the electric spark caused the union of the oxygen and hydrogen and forming an electric fluid, the discharge of which he supposed to be the phenomena of the Aurora; whereas, little or no hydrogen.

This subject is one our knowledge of which we may expect to be rather increased. Should that be the case, we may provisionally refer the reader to Luteric, Northern

AURUNGABAD, a province of Hindustan, formerly known as the province of soulah of Ahmednagar. It is situated in the 21st Part of the World, and contains the Deccan, and lies between the 18th and 21st degree of north latitude. The limits of this province are not very clearly defined, and in common with those of other Indian territories are subject to occasional alteration. To the north it lies against Guzerat, Baroda, and Berrar; to the east, Bencoolen and Hyderabad; to the south is Bejapur, and to the west the Indian Ocean. Its length is estimated at 300 miles, and its breadth at 160 miles.

Aurungabad first became a province of the Mogul Empire in 1613. The first capital of the province when the seat of Dowlatabad was taken by the Soulehabads of Mandeshwar, who thus put an end to the short-lived dynasty of the Abyssinian Malik Amber. The fortress just mentioned was then considered as the capital of the province, and continued to be so after the Nurus had obtained the Mogul government, and until, in more recent times, the encroachments of the Poonah Mahatts made it an unsuitable residence for the Nurus, who removed the seat of his government to Hyderabad. The province is now
divided between the Nizams and the Maharattas, about one-fourth being under the sway of the former, and three-fourths under the latter.

The surface of the province is in general mountainous, especially where it is crossed by the western ghauts, the hills there rising to a considerable height. The tract of country which lies to the eastward of the ghauts, and which includes the largest portion of the province, is for the most part elevated table-land, seldom less than 1800 feet above the level of the sea. It abounds in those almost inaccessible fastnesses—the hill forts—which so often baffled the attempts of the Moguls, and were of the greatest service to the native princes in their principal tracts or islands.

In its general character, the soil of the province is fertile, producing abundance of rice; but, owing to the oppressive character of the native governments, the population is by no means proportionate to the extent or capacity of the soil. Many European fruits attain to a high degree of perfection, particularly strawberries, peaches, and grapes; the last of which are very large.

A very hardy but ill-formed breed of horses is reared in great numbers for the Mahratta service.

Aurungabad contains the sources of several rivers; among others are the Neera, the Beema, and the Godavery. The first rises in the western ghauts to the south of Poona, and passing eastward divides the province from Bejapoor, and descends in the Neer river, which enters the Arabian Sea.

The Beema rises in the mountains about 40 miles north of Poona, and passes at a distance of 15 miles from that place; thence it flows, with many windings, in a south-easterly direction, receiving several hill-streams in its course; and joins the Krishna, in the province of Hyderabad. The Godavery, one of the most sacred streams of the Hindoos, and the largest river of the Dekkan, proceeds from numerous sources in the mountains that form the province from west to east. [See GODAVERY.] These rivers do not attain to any considerable size until they have left the limits of the province.

The principal towns of the Soubahs are Aurungabad, Aurangabad, Daulatabad, Poona, Jaina, and Ilosia. Descriptions of these places will be found in this work, as well as of the remarkable excavated temples of Carli and Elora, both of which are within the province. The inhabitants are principally Hindoos; only about one-twentieth are Mahomedans. The Maratha language is that principally used, and of this there are several local dialects. Hindustani and Persian are spoken by the higher classes, the latter being used in the courts.

[See Frere's History of the Deccan; Malcolm's Memoir of Central India; Kennell's Memoir of a Map of Hindostan.]

AURUNGABAD, a city of Hindustan, within the limits of the Nizam's dominions, and the capital of the Aurungabad district. It is situated in 19° 34' N., lat., and 75° 20' E. long.

The city was originally a village named Gurka, but becoming a favourite residence of Aurungzebe during the time when he was governor of Khandesh, in the Dekkan, it speedily rose in importance. For a long time after the Nizams had shaken off their dependence upon the court of Delhi, this city continued to be the place of their residence.

Aurungabad is situated in a hollow, on the banks of the river, which, a mountain-stream, which separates the city from a considerable suburb called Begum Pooma, the communication with which is preserved by means of two substantial bridges. On the north side is a considerable marsh employed for the cultivation of rice, and it is probably owing to this that the city, from this ground, that the city is very unhealthy, and that the inhabitants are subject at all seasons to be attacked by intermittent fevers. The military cantonments, which stand about a mile south-west of the city, are designed to be free from this malady, and to be generally healthy.

Considerable industry has been shown in providing a sufficient supply of excellent water for the use and comfort of the inhabitants. This water is brought by means of several conduits from various springs in the country, which are thrown together by numerous stone reservoirs in every part of the city. The principal street is nearly two miles long, and of a considerable width, with a spacious quadrangle at one extremity, and a handsome market-place near it. The palace of Aurungzebe, which is now in ruins, covers an extensive space. Here is also a celebrated mausoleum erected by order of that ruler to the memory of his daughter; it bears some resemblance to the mohabs built by the Emperor Shah Jehan, at Agra. The whole city is rapidly falling to decay, and when visited in 1827 by Colonel Fitzclare, appeared, at least as regards its principal buildings, little better than a heap of ruins. It was still, however, said to contain a population of 60,000 persons, and to cover a space about seven miles in circumference. A considerable traffic is carried on in the bazaar, where both European and native goods are exposed for sale.

During eight or nine months of the year the wind usually blows from the south-west; in the months of November, December, and January, easterly winds commonly prevail, and at this time the variations of temperature are sudden and excessive, the thermometer changing from 86° to 60° in the same day. At other times the range of the thermometer is from 76° to 100° Fahrenheit. The average quantity of rain which falls during the year is stated to be 30 inches; but in this respect the climate is subject to much variation, and for each of three consecutive years it has been known that the quantity of rain has not exceeded 21 inches. All kinds of tropical fruits are good and abundant, and both grapes and oranges are of excellent quality.

From Aurungabad to Poona, 94 miles; from Poona to Bombay 284 miles; from Bombay 284 miles; from Hyderabad 295; from Madras 647; from Delhi 790; and from Calcutta 1022 miles, travelling distances. It is also about seven miles south-east of the fort, a town called 400 miles from Mooltan.

[See Kennell's Memoir of Malcolm's Memoir of Central India; Fernand's the Deccan; Fitzclare's Routes through India and Egypt to England.]

AURUNGZEBE was the last powerful and energetic emperor of the Mogul line, who ascended the throne in the latter half of the seventeenth century. His proper name was Mohammed; but his grandfather gave him the surname Aurungzebe (properly Aurang-zib), i.e. the ornament of the throne, and when he became emperor, he assumed the titles of Mogul-imad-ul-mulk, or Mogul imam, and the religion, and Alem-gir, i.e. the conqueror of the world.

Aurungzebe was the third son of Shah Jahan, the son and successor of the celebrated emperor Jehangir. He was born on the 22nd of October, 1618, and had just attained his tenth year when his father ascended the throne (1st February, 1628). Aurungzebe appears from an early age to have aspired to the throne of the Moguls; but he artfully concealed his ambitious designs till he had assumed the dignity and rank of an emperor. From his twentieth year, however, military duties devolved upon him, and soon engaged his entire attention. After an expedition, which the tranquillity of the empire had permitted Shah Jehan to undertake against the Dekkan, Aurungzebe's operations in the northward were arrested, the province of Khandesh, and founded here a magnificent city, which he called after his own name Aurungzebe (properly Aurang-Abad, i.e. the city of Aurang). Soon afterwards the province of Cabul was infested by an invasion of the Uzbeks. Aurungzebe was sent against them, and after a long and desperate struggle succeeded in subduing the Uzbek sovereign. But neither Aurungzebe nor Dara-Shukhun, his eldest brother, was able to rescue the city of Candahar, which Shah Abbas of Persia, during the absence of the Mogul army, had obtained by capitulation. The insurrection of Emir Jumlah, a chief in the service of the king of Golconda, Aurungzebe renewed the war, and laid siege to the city of Golconda, which only after the most severe efforts at Agra arrived, directing that terms of peace should be proposed to the besieged raja. Emir Jumlah was called to Agra, and the emperor Shah Jehan conferred upon him the dignity of viceroy. Jointly with him, Aurungzebe led an expedition against Goa, which had, after the departure of the Mogul army, been obliged to submit to very severe terms. After these events (about the end of the year 1656), the health of Shah Jehan, who was then upwards of seventy years old, excited alarm. His eldest son, Dara-Shukhun, in a.d. 1616, in endeavouring to secure the throne for himself, confined his father, and took the reins of government into his hands. He was at first opposed by his brother Sujah (born in a.d. 1616), the next in age to himself, but without effect. But Aurungzebe, under the pretense of
securing the throne to his younger brother Murad Baksh (born in A.D. 1624), then at Ahmadabad in Guzerat, invited him to join him with his forces at Ougeen, the capital of Malabar, which he had taken by violence and instruments, and the united troops of the two brothers encountered and defeated the forces of Dara Shekiah near Ougeen, and again near Agra. Dara Shekiah fled towards Lahore, and Aurungzebe having first secured and imprisoned his brother Murad Baksh, returned and proclaimed him king in the cradle of his mother at Izaab, near Delhi, on the 29th of July (according to others on the 2nd of August), 1658. His father, Shah Jehan, had in the mean time recovered from his illness; but Aurungzebe continued to keep him in custody, and removed him, in July, 1659, to Agra, where he died at the age of seventy-four years, and it has been suspected by poison, on the 21st of January, 1668.

Shortly after Aurungzebe had been proclaimed emperor, his brother Sujah repeated the attempt to possess himself of the government, but was defeated in several battles, and at last having no further means of resistance, he fled from his retreat at Darca in Bengal, and sought refuge with the neighbouring rajah of Aurungzebe, by whom he was cruelly beheaded. Dara Shekiah had about the same time returned from Lahore, and was received in the gates of Guzerat, marshalled to Delhi, when he was met and defeated by Aurungzebe near Ajmere. He fled towards the Indus, but was betrayed into the hands of his brother, and slain at Khora, near Delhi, on the 21st of August, 1659. His son Solman Shekiah had sought the protection of the rajah of Serenag in the northern mountains, but was by him delivered into the hands of Aurungzebe, who confined him in the fort of Gwalior (14th of January, 1660).

Aurungzebe, in 1659, has been proclaimed a second time, when he ordered that, for the future, the beginning of his reign should be dated from the 12th of May of that year (for the 1st of Ramazan, A. Heg. 1659). As soon as he had been acclaimed emperor, he issued a proclamation, in consequence of which, his fame was great and his administration, as his power was great and his kingdom was vast, and by the means of a great prudence and talent in his administration, his reign was peaceful and tranquil. Much credit is due to the foresight and prudent measures by which he succeeded in averting or mitigating the disastrous consequences of a famine, which visited the provinces of the Deccan in 1657.

Emir Jumlah had been appointed governor of Bengal; and his popularity excited the jealousy of Aurungzebe, who, in order to prevent him from forming ambitious designs, sent him on an expedition against the king of Assam. The arms of Emir Jumlah were victorious, but his troops were affected with a disaffection, to which disease Emir Jumlah himself fell a victim.

It deserves to be noticed that the throne of Aurungzebe had been obtained by the efforts of a secretary, who, in writing to Shah Abbas of Persia, had addressed him by no higher title than belonged to the khans of the Uzbeks. Shah Abbas, supposing this to be a premature and hasty claim, sent him a letter, and threatened to cause him to be removed, but was struck dumb by the answer, which was sent him. His name was not mentioned in the letter, but he was addressed as "The king of Persia," and one of his letters ended with "To the king of Persia." This was the first letter written by Shah Abbas to the king of Persia, and it was read with astonishment and amazement by the court at Delhi. The title of "king of Persia" was not given to Shah Abbas by the Persians, but by the king of Persia, whom he had deposed, and who gave him the title of "king of Persia." 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the worked states of several of the most important organs of the body.

The philosophical mind nothing is more interesting and instructive than to trace the history of useful discovery. It is clear that the idea on which the modern art of auscultation is founded, had occurred to Hippocrates upwards of two thousand years ago. "You will know by this," says the first of the surgeons of disease as described by him, "that the chest contains water and not pus, if, on applying the ear for a certain time to the side, you hear a sound like that of healing vinaiges. The non-existence of distinction in the movements of the heart, lungs, and liver, is all apparent, and extended observation; and consequently rendered it impossible to follow out to any sure and useful result the idea which had occurred to the most antient writer on physic. Accordingly, the suggestion of Hippocrates seems to have attracted no attention for many centuries, and the mode of studying disease founded upon it, if it had ever been carried to any extent in remote ages, had long sunk into oblivion. About the middle of the 17th century, a distinguished philosopher and mathematician, who was not of the medical profession, and who does not appear to have been acquainted with the writings of Hippocrates, had the penetration to see that advantage might be taken of the sounds produced by the motions of the internal organs to discover the nature of their disordered states, and he even predicted that artificial instruments were destined to be employed to this effect. But the means of percussion, not occasionally with cases in which this method afforded them little or no assistance; and in the hope of obtaining further aid, they accustomed themselves in such cases to apply the ear closely to the chest. Little practical benefit resulted for some time; but at length led to a discovery of inestimable advantage; a discovery which may be said to have enabled the physician to see into the chest almost with as much clearness as if its walls were transparent. The following is the account of this discovery in the words of the remarkable man who made it, and who, in the course of a few years, with a diligence scarcely ever exceeded, developed, matured, and systematised the highly-important practical results which it has afforded.

Laenec's work De l'Auscultation Mediate et des Maladies des Poumons et du Coeur, is a collected young woman affected with the general symptoms of diseased heart, and in whom case the employment of the hand were of little avail, owing to her being extremely emaciated. The application of the ear being inadmissible for obvious reasons, I happened to recollect a simple and well-known fact in acoustics, and fancied it might be turned to some use on the present occasion. I at first thought it possible that I might not without danger as useless. And somewhat more of encouragement I have also from experience, that I have been able to hear very plainly the motions of the heart, and have been accustomed to bear the motion of the wind to and fro in the gut and other small vessels: the stopping in the lungs is easily discovered by the wheezing. As to the motion of the parts one amongst another, to their becoming sensible, they require either that the region of the organ be filled up with air, or more powerful to sensible and distinguish them as they are for the doing of both which I think it is impossible but that in many cases there may be helps found.

This prediction has been realised: helps have been found.

About a century after this passage was written, Leopold Auenbrugger, a German physician then resident at Vienna, fell upon an artificial method of producing sounds in various parts of the body (see Percussion) by which the sound man might judge of the state of the subjacent parts. This method, esting, I believe, to the work of Auenbrugger, and made his method known to the whole of Europe. From that period the practice of percussion has been properly general, and it soon began to be put, in skilful hands, with results far more precise and certain than was expected.

The art of distinguishing disease by sound comprehends then two distinct methods, that of auscultation and that of percussion. The study of auscultation may be pursued either by the unassisted ear, or through the medium of instruments; the first is called immediate or direct, the second intermediate auscultation. In like manner percussion may be performed either on the natural surface of the body, or through the medium of some solid or dense substance firmly applied to it. The first is termed direct, the second mediater, percussion. [Auscultation.] [Auscultation.] [Percussion.]

AUSONIANS (AUSONER) are the inhabitants of the northern part of the Italian peninsula, who appear to have been a branch of the great Opeian or Ocean nation. Nisbuh shows that Auson is the Greek form of the native name Auruni, from which the adjective form Auranus, shortened into Auran-
also necessarily had the privilege of the aures attached to these magistrates. Still, to the very last, those offices which in their order were purely of a plebeian character, as the tribunate, had no connection whatever with the aures. There were many messes in the law of aures, which were matters of dispute among the aures which the heirs of a certain member of the college of aures, or sometimes to a single member of that body. The most important distinction was that which existed between the greater and the lesser aures: thus the auries of a consul were superior to those of a proconsul. In the latter, it could not, ro rule at a consular election.

In an army the commander-in-chief received the auries with the imperium, and so completely was any success attributed to this; auringen, that an officer of any inferior officer, in any part of the world, gained a victory, that success was attributed to the commander-in-chief, who perhaps might have been the whole time in the neighbourhood of Rome, and he alone was entitled to the honours of the triumph. In this case the lieutenant was said to fight under the aures of the commander-in-chief. As the ceremony of the aures was originally employed to sanction the commencement of every important undertaking, whether public or private, the word auringen, to take the meaning of the Latin word, would signify the signification of commencing any matter of importance.

AUSTELL, or AUSTLE, ST, a considerable market-town in the east division of the hundred of Powder, in the county of Norfolk, 6 miles from Norwich, 12 from St. Ives, and 243 miles S.S.W. of London, 61 from Lowestoft, 46 from Southwold, to Grampound, Truro, Redruth, and St. Ives; 243 miles S.S.W. of London, 61 from Lowestoft, and 13 from Truro. It occupies the side of a hill, and slopes gradually to a small rivulet that waters a narrow valley. The streets are narrow and dirty, and, with the few natural conveniences of the town, is a considerable thoroughfare. The church is a handsome fabric, consisting of a nave and chancel, with side aisles separated by clustered pillars. It has a good tower, adorned with singular sculpture; some parts of the arches, also, are of marble. The church is dedicated to St. John, of whose story the tower are several rude statues in richly ornamented niches. There are many figures on the west side, and four on each of the others. Those on the west side are described in the MS. collection of the British Museum.—*The uppermost niche has the figure of God the Father, with the crucifix. This niche is supported by two angels holding a cloth including some little figure praying. In the next row of niches, St. Gabriel and the Virgin pray with the holy pale in his left hand. This niche is in the centre with [his] right hand elevated, the cross in the left, and the crown of thorns on her neck. This niche is richly ornamented with scrolls of foliage on the side. On the right hand of this niche [is] a saint with a staff in his right hand, and another in his left on the top. The remaining twelve figures, on the other sides, are supposed to be the apostles. Over the south porch is an inscription in stone relief, of the meaning of which the best-informed antiquaries seem to doubt. Various sheaves of corn are carved on the outside of the church, and on the seats; and from the frequent occurrence of the slovenly, hammer, &c., it would seem that the masons were the chief contributors to the building. The font is a very ancient one, adorned with beautiful sculpture. The chancel arch, built of white marbles, gave an endowment for a chantry chapel in the churchyard of St. Austell, and there was once a sanctuary here.

St. Austell was described by Leland, in the time of Henry V, as a town of great importance, and had the peculiar privilege of being served by a great mine of tin, the revocacy to the great tin mine of Polgothen (which part in this parish, and was at one time esteemed the richest mine ever worked in England), and other considerable mines. It still owes its principal importance to the tin mines, the copper mines of Chilcomb, and the copper plate of the parish. The pitcher bakery is carried on to a considerable extent (for the parish extends to the coast, though the town itself is a little inland), and there have been hatteries formed at Chalweston and Pentewan for the conveniences of importing rosewood from West Africa and cornish tin from the porcelain clay of the district. A railroad connects the town with the harbour of Pentewan. There are, at the west end of the town, three blowing-houses (for some years the only ones in the county) for smelting ore. The ore received in these houses is for some purposes preferable to what is sometimes an
the common way. Copper ore is said to have been smelted at St. Austell before any other place in Cornwall. There is a dock and shipwright's yard at Charlestown, and the manufacture of coarse woollens was carried on in St. Austell some years since, but whether it is still continued, we have no information. There is at Pentewan a famous stone quarry from which stone has been got for building many churches and gentlemen's seats in the county.

There is a considerable weekly market on Friday for corn and other articles. It is held under a charter granted by Charles I. in 1629, for length of the said market and the benefit to the relief and maintenance of the poor. There are two fairs, one on the Thursday in Whitman-week, and the other on the 30th November. It is said there was once another fair, viz., on the 18th of September, but the custom lapsed. The Court of Assize (the most considerable of the Stannary Courts) being held here has contributed to the prosperity of the town.

The parish includes several villages; of which the principal are, Carveth, Corbean, Penchant or Pentewan, Porrean, Rescorla, Tregoninney, Tregonrick, Trenarren, Tretherry, Trevarrick, and Charlestown, formerly Porthmeor. The number of houses in the whole parish, in 1831, was 1626 (including 13 building and 70 uninhabited), and of inhabitants there were 672 males and 639 females, a total of 1311. This is a considerable place. The number of inhabitants has more than doubled within the last twenty years. This is ascribed to the demand for labour in the mines.

The living is a vicarage in the gift of the crown. It is in the diocese of Exeter, in the archdeaconry of Cornwall, and the dioecese of Exeter. There are several dissenting places of worship; also an alms-house built in 1809, but not endowed. There was an ancient free chapel at Menacuddle, in the parish of St. Mary at Milline, and another at Trewhian Cove.

The town of St. Austell, which is part of the parliamentary county, and in which the Earl of Essex, who was quartered during the great civil war, was taken by Charles I. in the year 1644, and held for the king until the year 1650. The old town of St. Austell was a little distance to the east of the present. Its site is still marked by a few cottages.

AUSTERLITZ (also called Slawcow) is the chief town of the principality of Kauisits-Rittel, in the circle of Brun, in Moravia, and about nine miles east of the town of Brun; it lies on the Littawa, and with its suburb contains about 300 houses, and 2200 inhabitants. A handsome palace was there at this period, which with the present palace of the Vanower dominions, Plett succeeded in forming a coalition, to which Austria and Holstein became parties in 1805. Napoleon lost no time in rapidly pouring his troops into the heart of Germany, where he cut off the retreat of 24,000 Austrians, under Field-marshall Mack, shut them up in Ulm, and forced them to surrender on the 17th of October. On the 11th of the following month Napoleon entered Vienna, and the Emperor Franz, having removed his Austrian headquarters to Olmuts, in Moravia, was there joined by two divisions of the Russian army, under Buxhövden and Kutsows. The arrival of the Emperor Alexander on the 24th was the signal for the movement of the allied forces against Brünn, with the view of ousting the Turks from 40 miles, and of making the temporary centre of his operations. Napoleon gained a complete victory at Austerlitz. The first result of the battle was an armistice, the terms of which were dictated by Napoleon on the 6th of December; the second was the treaty of alliance concluded between Berthier and Prince Lichtenstein, the French and Austrian plenipotentiaries, by which it was agreed that Austria should abandon the Venetian territories in favour of the Kingdoms of Italy, and renounce her possessions in the Tyrol and Styria; the latter being designated by the conqueror for distribution between the Wurtemberg, Bavaria, and Baden sovereigns, as a reward for their co-operation. This campaign cost the Austrian crown nearly 24,000 square miles of territory, 2,786,000 subjects, and an income of 1,300,000,000, sterling, independently of severe temporary sacrifices. [See Bonaparte.]

AUSTIN, St. [See Augustine.]

AUSTRALASIA. [See Australia.]

AUSTRALIA is the name recently adopted to designate all the countries which are considered as forming the 5th great division of the globe. Up to the middle of the last century, and still later, theoretical geographers, from the fanciful idea of the necessity of an equilibrium in the solid structure of the earth, supposed that there existed an immense continent surrounded the Antarctic Pole, and this imaginary continent was called by them Terra Australis. When the errors of these speculative geographers were corrected by astronomical and geographical observations, and the map of Captain Cook, all the islands lying to the south of Asia and the southern part of Africa, which had already received proper names. It did not seem convenient to the geographers of that period to add these islands either to Asia or to America; and they wished therefore to devise a new name which comprehended all of them, and at the same time express their position on the globe. The English adopted Austrailia, the French Oceanie, and the Germans changed the Terra Australia into Australien, which name at present seems to have obtained general acceptance.

The islands composing Australia are situated, as we have already observed, partly to the south of Asia and partly in the wide Pacific Ocean between Asia and America. From America they are divided by a wide and open sea, but from Asia there is no natural boundary, and every one of the islands belonging to Asia. When the Portuguese and the Spaniards, in the beginning of the sixteenth century, began to be acquainted with the islands of India, they only discovered those which offered some mercantile advantages, and made settlements in such as were capable of furnishing provisions, expense and till of a conquist. Those islands which did not offer such advantages, and which were consequently neglected by them, were not considered by their successors as worth the expense of settlement. Thus Timor and the Moluccas, and the Moluccas and New Guinea, and at a short distance from the former, are included in Australia. In this island consists one very large island, formerly called New Holland, and now the continent of Australia, or briefly, Australia, lying between 115° and 135° E. long., and 30° S., and of an indefinite number of smaller islands lying to the S. E. and N. E. of this continent, between 130° and 160° W. long., and between 10° N. and 30° S.

The continent of Australia extends, in its greatest length between Sharks Bay on the west coast and Cape Sandy on the east, 2400 miles; and from north to south between Cape York on Torres Straits to Cape McIlwraith on Bass Straits, about 1700 miles. Its average breadth may be nearly 1400 miles. Timor and Timorlaut are the nearest of the Asiatic islands; the former being about 290 miles distant from Cape McIlwraith, and the latter equal distant from Cape Cobourg Peninsula; but the continent approaches nearer to New Guinea, which is separated from it by Torres Straits, not quite 90 miles wide at Cape York. Australia is divided from Van Diemen's Land by Bass Straits, which extend from 45° N. to 30° S., and from 165° E. to 139° E. long. The other islands belonging to Australia lie in the Pacific Ocean, either in groups or scattered singly over the wide sea. They may be divided into those to the north and those to the south of the equator.

To the north of the equator, between 14° and 15° E. long., are three groups, the Bonin Sima Islands, the Marianas or Ladrones, and the Carolinas; the latter extend to 165° E. long. Nearly contiguous to the Carolinas, between 14° and 15° E. long., are Lord Mulgrave's Island, forming different groups, other than the Recherche and Marshall Islands. Gilbert's Archipelago, situated on both sides of the equator, is likewise considered as belonging to Lord Mulgrave's Islands. The group of the Sandwich takes lies at a great distance between 150° and 160° W. long., and 19° and 23° N. lat. The inhabitants of these
islands belong to the Malay race, except the Boun Sima
islands, on which the Japanese have settled.
South of the equator, and between it and the continent of
Australia, is the large island of New Guinea, which ex-
tends from about 10° N. lat. to 30° S. lat., over a
considerable degree of longitude. East of it lies the Admiralty
Group and the islands of New Britain, New Ireland, New
Hanover, and the Lusinde Archipelago, which are fol-
lowed by the eastward Solomons' Archipelago. All these
islands lie between the equator and 10° S. lat., and are
inhabited by nations belonging to the Austral Negros or
Papuas.
Between 10° S. lat. and the tropic of Capricorn lie the
following islands and groups.—New Caledonia; the New
Brisbane and Marcus Islands; the Santa Cruz; the Trinity
Islands; the Friendly Islands; the Navigators' Islands;
Cook's Islands; Society Islands; and the Dangerous
Archipelago. North of the latter group are the Mendana
or Marquesa Islands, lying between 5° and 10° S. lat.
At a great distance from these groups are situated Easter
Island and New Zealand; the former lies in 27° 8' W. lat.
and 100° W. long., and the latter, consisting of three islands,
between 34° 48' S. lat. and 178° 46' E. long.
Here begins the group of the Friendly Islands. The last of the Dutch
navigators who distinguished himself by discoveries in these
seas, was Jacob Roggeveen, who, in 1720 and 1722,
discovered some islands of the Dangerous Archipelago, and
a part of New Caledonia.

1. Discovery of Australia.—It happened that the Por-
tuguese, who, having discovered at that time the Fernan
do de Magalhaens, after opening an entrance to the
Pacific Ocean, by the discovery of the strait which is
named after him, sailed round the world, and discovered the
Philippines nearly about the same time. The Portuguese
found an entrance to the Pacific Ocean in the Moluccas, and
not extend their navigation farther to the east or south,
except that they probably discovered the island of New
Guinea or Papua. But the Spaniards having conquered
Mexico and settled on the Philippine and Molucca Islands,
soon established themselves in the Moluccas and Manilla.
Their vessels annually traversed the Pacific Ocean, but
they always followed the same track, they made at first
no discoveries in these seas except the Marianas and Caro-
linas, which lay in the route of their vessels. Don Jorge
de Vargas, in 1558, sailed from the Moluccas to the
islands of New Guinea, or Papua, in proceeding from Malaca to the
Moluccas. Alonso de Mendonza, in 1567, discovered Solon
Archipelago. Towards the end of the sixteenth cen-
tury (1593), he was sent by the Spanish government on
an expedition to the South Seas, in which he discovered the
group of the Mendana Islands and those of Santa Cruz.
In the beginning of the seventeenth century, Pedro Fernandez
de Quiros and Luis Vex de Torres undertook another
voyage, and in 1602 they discovered the Terra del Espiritu Santo, which,
when rediscovered by Cook, was found to consist of many
islands, and was called by him the New Hebrides. Torres,
being separated from Quirors, sailed along the southern
coast of New Guinea, and passed through the straits which
separate that island from the continent of Australia, and
which at present bear his name. He saw the coast of
Australia, at its most northerm point, Cape York, only a
few months after it had been discovered by the Dutch, but
he was not aware of its being part of a vast continent, and
thought it was some islands of small extent. After this
voyage the Spanish nation fell into such a state of inactivity
that they thought no more of discoveries.
Not long after the voyage of Quiros and Torres, the
Dutch East India Company had successfully established the Portuguese
on the continent and islands of India, and to establish an
active commerce with these countries. Being eager to ex-
tend their conquests and commerce, they went in, 1605, a
vast, called Duyien, from Timor, to explore the coasts of
Australia, to the south of Endeavour's Strait, on the eastern shore of the Gulf of
Carpentaria. This happened in March, 1606, only a few
months after the discovery of Cape York. The Dutch
did not at first pursue their voyage of discovery, though the
greatest portion of the coasts of the continent was
shortly afterwards first accidentally seen by their vessels
carrying on the commerce between Europe and Batavia.
In 1618, The Dutch East India Company, in a part of the western
coast, between 28° of E. and the tropic of Capricorn, and
called it Endracht's Land (Country of Concord), from the
name of the ship by which the discovery was made. After
this time, discoveries on these coasts followed closely on
one another. In 1818, the coast from about 11° to 15° S.
lat., was discovered by Zehden, in south-eastern part of
this quarter of the island from the entrance of the Gulf
of Carpentaria to Cape Talbot, and to have called the eastern
part of his discoveries Arnhem's Land, and the western Van
Diemen's Land. The following year, Von Blias sailed
nearly along the coast of New South Wales, and to have
called it New England; and the second, after the governor of
Cape, who explored the Gulf of Carpentaria with tolerable
accuracy. Thus the Dutch navigators discovered somewhat
more than half the coast of the continent of Australia.

The regular voyages of discovery undertaken by the
Dutch were less successful. Simon van der Stadt (1615—1617)
discovered the straits of Le Maire, between Terra del Fuego and the Blain Land, and entered the Pacific
Ocean by Cape Horn. In this ocean, however, they fell
broadside with the Spanish ship, and the Master of the
Archipelago, and with the eastern part of New Ireland.

Avelin Tasman (in 1642) discovered Van Diemen's
island, which, up to the close of the last century, was thought
to be a part of the continent of New Holland; and after
this the French, Dutch, and English each made voyages there, but they did not add to the number of discoveries.
Before the middle of the eighteenth century, the discoveries of
the English were of great importance. Captain Wallis and
Carpent (1767—1868) discovered the Society Islands, New
Ireland, New Britain, and New Hanover, and some other
islands of least extent. They were closely followed by
Captain Cook, who, in his three voyages, besides exploring
and surveying a large number of the islands formerly known,
covered the entire coast of Australia from Cape York to Cape York, which was called by him New South Wales, with New Caledonia, the Sandwich Islands, and many
smaller islands. After his voyages, many other English-
men explored these seas successfully. Lord Malgraves
Islands were discovered in 1778, and the Fugue Islands
were discovered by Lieut. Phipps, in 1779 by Bligh. After the establishment of the English
colony in New South Wales, those coasts of the continent
which till then had not been visited by Europeans were
explored. Bass and Flinders discovered, in 1796, the strait
which separates Van Diemen's Land from the continent;
and the adjacent coast of the continent was called Bass
Land. In 1800, Grant discovered the coast to the west of
Bass Land, up to Cape Northumberland; this portion of
the continent bears the name of Grant's Land. Flinders, after
having surveyed Van Diemen's Land, discovered in 1802, in the
extreme west of the continent, a portion of the coast of the
island of Tasmania, which is called Flinders' Land. Thus, nearly all the remaining part of the
coasts of continental Australia, unseen by the Dutch, were
discovered by the English in less than fifty years; only a
few portion being left undiscovered. In 1825, the last
remaining undiscovered, and was afterwards explored by the
French.

The French government, in the last century, undertook
certain voyages of discovery, but with little success.
The most fortunate was that of Baudin (1805—1809),
who, besides visiting some other groups already previously
known, discovered the Navigators' Islands and the Lusinde
Archipelago. In the present century, under Napoleon,
Captain Baudin succeeded in discovering and exploring, in
1805, that part of the southern coast of the continent which
lies between Flinders' Land and Grant's Land, and gave it the name of Napoleon's Land; but on our charts it is commonly called Banks' Land.

As so short a time has elapsed since the complete discovery of the coasts of Continental Australia, it cannot be a matter of surprise that we are so little acquainted with the interior. After the establishment of the English colony at Fort Jackson, in 1798, the settlers began to penetrate into this great district; but their progress was soon stopped by that mountain-range which runs along the coast of New South Wales, at no great distance from the ocean. For many years their attempts to cross these mountains were beset with so many difficulties that their progress was insuf-

ficient, as by the rivers which form the highest summits, and because they probably had never been passed by the natives. At last an attempt made in 1813 succeeded; and during the last twenty years the progress of discovery in the interior, at least, has been very considerable.

The coast of Arnhem's, Van Diemen's Land, and of a large portion of De Witt's Land, was surveyed by Captain King. But that portion of the coast of De Witt's Land which extends from Cape Villiers to Depuch Island has not been surveyed, and is nearly unknown.

The coast between Depuch Islands and North-West Cape was surveyed by Captain Philip P. King.

Shark's Bay was surveyed by Dampier.

The mouth of Shoalwater Bay was explored by Mr. Leeuwin was surveyed lately, at the time when the settlement on Swan River was formed (1825).

The southern coast of Australia, from Cape Leeuwin to Encounter Bay, was surveyed by Captain Flinders.

Some of the islands belonging to Australia have been surveyed with great accuracy by English navigators; those especially are Flinders Island, New Zealand, the Society Islands, the Friendly Islands, and the Sandwich Islands. Others, as Solomon's Archipelago, the islands of Santa Cruz, and the large island of New Guinea, have not had this minute examination.

III. Physiography. Very lately an idea pre-

This was inferred from the navigators, who surveyed the coast with accuracy, not having been able to discover the outlet of any great river; and it received great sup-

This is not proved that the land generally occurs, but in a great distance from the coast, and that the interior was an immense basin, where an extensive lake received all the water flowing down from the elevated ridges surrounding it on all sides of the coast.

The coast between Cape Leeuwin and Cape Wil
er's Gulf, on an extent of coast of nearly twenty-five degrees of long. observed only very few eminences which desired to be called hills, and nearly all of them were composed of sand. Never was an any part was a high country visible behind the low coast. The country about Spencer's Gulf up to Bass Strait and Cape Wilson is more hilly; but even here large tracts of the coast are low and no mountains are visible. Along the coast of New South Wales, from Cape Wilson to Bass Strait, the country is generally low, and in many parts is rocky and mountainous. But on the northern coast many extensive tracts of low land are found, as on the eastern and southern parts of Carpenter's Gulf, on Van Diemen's Gulf, where the alligator rivers discharge their waters, and towards North West Cape. That portion of the coast which has not been surveyed may also be a low land. The western shores, however, are, in many places high and precipitous, especially to the south of Dirk Hartog's Island; and even where they are low, a range of mountains appears to extend far into the sea. On the whole, the general surface of the country, on the character of the coast, it is evident that all the watercourses formed in the interior may easily find their way to the sea which washes the southern and northern shores. It might further be observed, that even the most careful navigators, though seeing a range of low hills in an inlet, which is the mouth of a large river, especially where the shores are low and sandy: this happened to Captain Flinders, whose general accuracy can be relied on. He did not observe the situation of this former one of this mouth, but a point, lately discovered by Captain Sturt, finds its way to the sea; yet this river probably flows upwards of a thousand miles, and surpasses the Rhine in the length of its course.

We are still far from being in possession of sufficient data to form a general idea of the interior of Australia. Except a small tract along the western coast, both to the north and south of Swan River, only the south-eastern part of this continent has been explored; and this does not embrace one-eighth of the whole area, and comprehends only one-fifth of the country to the south of 30° S. lat. and to the east of 140° E. long.

This region is traversed by a range of mountains which begins at the most southern point of Australia, Cape Wilson, and runs generally nearly due north up to 28° S. lat. Probably 30° 30' S. lat. is an inconsiderable bend to Cape York, at Endeavour's Strait. The distance between this mountain range and the shore is not everywhere the same. South of 30° S. lat it averages between forty and fifty miles, but towards the north it declines somewhat to the west, and continues in this direction to 32°, where its distance from the sea is 140 miles, at the sources of the river Hunter. It then turns suddenly to the east, and continues in this direction for about fifty miles, and again reappears in its former course, at a distance of about 80 or 100 miles from the shore. The southern range up to 33° is called the Blue Mountains: that portion of it which lies in the direction of west and east bears the name of Liverpool Range; and a great number of ranges extend from this range, which extends to the west of Sydney appears not to rise much above 3000 feet; Mount York, one of its highest summits, attains only 3292 feet. The average breadth of this range is about fifty miles, and it is difficult to cross, as the higher part consists of steep and bare rocks and deep chasms, and contains only a few passes. This description, however, does not apply to Liverpool Range, where the upper part of the ridges is flat, or forms little hills and valleys divided by very steep and narrow passes, and at a distance of a few miles from the coast, the country is covered with rank grass. A newly-made road leads over this range from Sydney to Bathurst.

The country between the dividing range and the sea may be called rather hilly: the flats which are generally found along the coast are, however, in a great distance from the coast, though in some few they extend forty miles inland, and almost to the dividing range itself. These flats have a sandy soil, of indifferent fertility; but the hilly districts of the country, which in a few places, as at Illawara, New Castle, and Port Macquarie, deserve to be mentioned, are of a better description, except where they are composed of bare rocks. The valleys have commonly a strong soil, which in its natural state is covered with large trees, and displays a very vigorous vegetation; but when cultivated it yields good crops of grain. South of 33° S. lat. the ridges of the hills and the valleys between them are parallel to the principal range; and here the rivers, of which the greatest
part are only torrents, run in longitudinal valleys, which circumstance gives them a much longer course than they would have if they flowed directly into the sea. Thus the Hawkesbury River has a course of about 200 miles. Its sources are in the mountains which enclose the alpine lakes of George and Bathurst, of which the former is upwards of twelve miles long and about five broad. After the union of several small riviets the river is called Wallandilly (Sturt) or Walladilly. After flowing several miles nearly east, it runs for perhaps 150 miles north and north-east, gradually approaching the sea. Near 34° lat. it is joined by the Cox River, and after this junction is called Warragamba. About 400 miles from the mouth of the Corangamite, to which it gives the right, it again changes its name to that of Nepean, and before it makes the last great bend to the E. S. E. it takes the name of Hawkesbury: its estuary is called Broken Bay. The Shoal River, which runs south of 34°, runs for about 80 miles parallel to the sea from S. S. W. to N. N. E., till having approached the Walladilly, it suddenly changes its direction, and flows nearly east till it discharges its waters into Shoal Haven.

North of 32° lat. the interior valleys are transverse, and the course of the rivers is consequently west and east. The Hunter River runs about 140 miles in that direction, dividing, however, considerably towards the south. The course of the Manning River and that of the Hastings divide the country into northern and southern halves. The Cumbene River, which falls into Moreton Bay, and is navigable twenty miles inland for ships drawing sixteen feet water. (P. Cunningham.)

The interior of Australia, which displays such peculiar features in its forms and aspect, may be divided into the region of the Terraces and that of the Plains or Lowlands, and the 148° meridian may be considered as the mean line of division between these two regions; observing, however, that on the south, especially between the rivers Lachlan and Morumbidgee, the Terraces may extend somewhat farther west, and on the north may fall short of this line of division. The terraces, which may be considered as the western declivity of the Mountain range, which extends past the 148° meridian, and which has been formed or composed of more or less extensive plains, separated from one another by low ridges of hills. The plains, which often extend twelve miles and upwards, commonly occur in the immediate neighbourhood of some river; sometimes they occupy the high country between two rivers; they are either dead flats or a succession of gently swelling hills, clear of timber and covered with luxuriant herbage, which affords abundant food to cattle. The low ridges which divide them are regular in their forms, and the shepherds or sheepmen may gallop in perfect safety, and are generally commodious for excellent grazing tracts. Captain Sturt observes that these ridges decrease in height as they proceed to the west, and adds, as a peculiarity, that every ridge presents a new rock. The ridges are succeeded, in some places, in huge white masses, granite, chlorite, micaceous schist, sandstone, chaledony, quartz, red Jasper, and conglomerate rocks. The quantity of sheep and cattle which pasture on these terraces is already numerous, and by far the greatest part of the wool exported from Sidney is furnished by the shepherds of this district. Some of the terraces are better adapted for cattle than for sheep, and are noted for their dairy, as Bathurst Plains.

Here we meet all the rivers which drain those terraces rise in the dividing range, and are full and rapid, though not well adapted to navigation. Before they descend into the Lowlands which extend farther to the west, they join one another, and form a few large rivers. Such are especially the Morumbidgee, the Lachlan, and the Macquarie. The Morumbidgee, which originates in the mountainous country uniting the Warragong mountains with the dividing range at some distance to the south of Lake George, runs in a north-western direction until it issues from the mountains between the terraces, where it is joined by the Lachlan, called by the natives Colah, are not yet known, but it is certain that the Lachlan and the Morumbidgee, and the upper course of this river is in the same direction as that part which is known, from south-west to north-west. It descends into the Lowlands to the west of 148°, without joining any other considerable river during its course through the terraces. The Macquarie is supposed to rise near the point where the 34° parallel is cut by the 150° meridian, and to approach the road leading from Sydney to Bathurst. Here it is called the Fish River, but uniting, before it reaches the town of Bathurst, with the Campbell River, it takes the name of Macquarie, and continues its course to the north-west, through a fine country, till having formed a cataract near the 148° degree of longitude, it enters the Lowlands. Only 240 miles of its whole course, which is above 600 miles, belong to the Lowlands.

It is remarkable that the courses of these rivers decline much to the west, as if they were to disappear farther west, for the only river among which the 150° meridian, the highest known part of which is called Hardsivicka Range. These rivers seem also to change their course, and, declining to the west, to descend into the Lowlands.

The country south of the Murraybidge displays the same features. Captain Sturt describes it as a district whose surface is hilly, broken, and irregular, containing deep ravines and precipitous gorges: farther to the west, where the Warragong and Macquarie rivers have their summits, their summits are covered by lofty and distant peaks. This part of the Terraces is still less known than that to the east of Hardsivicka Range.

The Lowlands join the Terraces on the west; their extent in that direction, as well as to the south, is in such a way that the country traversed by these rivers is enclosed by two high ranges, the dividing range and another further to the west running north along the 150° meridian, the highest known part of which is called Hardsivicka Range.

The plains of Australia are, in many parts, extremely level; in others, they are slightly undulating; and in some of these plains of more than 100 miles, sandy regions of more than 100 miles, which hardly deserves to be called a hill: the loess of these eminences are not above 300 feet higher than the plain on which they stand. The country over which the aborigines of the interior the soil presents only two varieties: it is either a red sandy loam or a white coarse sand. In some places it is entirely destitute of vegetation, at others it nourishes only salubrious plants, without a blade of grass between them. Others again are covered with polonum, a glossy and leafless bramble; and on a few patches tracts of ground are discovered which appear to be moist, and in which the calyculum is abundant. Such patches probably form quicksands in the rainy season. These parts of the plains which seem to have the best soil produce stunted gum-trees and areas, which are composed of country are covered with shells and the claws of cray-fish, and this soil, although an alluvial deposit, is superficially sandy. They bear the appearance not only of being frequently undulated, but also of the soils having been dissected from them. On their surface no accumulation of rubbish is observed as to indicate a rush of waters to any one point; but numerous minor channels are traced, which evidently distribute the floods equally and generally over every part of the area which is such as Lake Yarramundi.

"My impression," says Captain Sturt, "when travelling the country to the west and north-west of the marches of the Macquarie, was, that I was traversing a country of comparatively recent formation. The sandy nature of the soil, the greater number of small streams, the absence of trees near the plants, the appearance of its isolated hills and flooded tracts, and its trifling elevation above the sea, generally contributed to strengthen these impressions on my mind."

It would appear that these plains inaccessibly decrease in
the water, and the current was so sluggish as to be scarcely perceptible. These general appearances continued for about three miles, when our course was suddenly and most unexpectedly checked. The channel, which had promised so well without any change in its breadth or depth, ceased altogether; and while we were yet lost in astonishment at so abrupt a termination of it, the boat grounded. Examining this spot with peculiar attention, two creeks were discovered, so small as scarcely to deserve the name, and which would, under ordinary circumstances, have been overlooked. One branched off to the north, the other to the west. The Morumbidgee and full reached the sea; that yea, and the latter about twenty yards, where they terminated.

The large rivers traversing the lowlands, which always have water in their channels, are the Morumbidgee and the Murray, the Lachlan, the Macquarie, and the Darling. The Morumbidgee and full reach the sea; that yea, and the latter about twenty yards, where they terminated.

is supposed by Captain Sturt to be the Darling. Up to this junction the Murray continues to flow to the W.N.W., but afterwards its course is changed to the S.W., and the river is considerably increased in size. As it approaches the 140° meridian, it trends to the south; and in this direction it flows into the Lake Alexandrina, which is 50 miles long and 40 broad, but generally very shallow. The water of the lake is brackish, and it communicates with the sea at Encounter Bay, by a passage impracticable even for the smallest boats. The river Murray, however, is navigable for vessels of considerable burden, being, for 50 miles from its mouth, 350 yards broad and from 20 to 25 feet deep.

The Lachlan river, after descending into the lowlands, traverses considerable marshes in 147° E. long.; and, shortly after issuing from them, it changes its course from north-west to south-west. Flowing in this direction to 145° long., it again enters some marshes, which appear to be much more extensive, and to continue to the place where the river joins the Morumbidgee, 143° 30' E. long.

The Macquarie may be considered as entering the lowlands at the place where it forms a cascade, 148° 3' E. long., and 31° 50' S. lat. It soon afterwards diminishes very much, and scarcely deserves to be called a river at Mount Harris, where its current is very sluggish. At no great distance farther to the north it enters the marshes; but Captain Sturt discovered a channel, which is commonly dry, by which the superabundant water of the marshes, after long rains, is carried off to the Morrisett Ponds and the Castlereagh River, and thus to the Darling.

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The Darling has only lately been discovered by Captain Sturt. He traced its course between 146° and 147° E, long., and 30° 30' S. lat. to 31° 25' S., or for about 1,445 miles between 146° and 144° 30' S. lat., and 39° 30' S. lat., for about 66 miles. At the first place the river runs nearly from east to west; and, in the second, its course is directed to the S.W. That both currents belong to the same river is proved from the fact that they do not seem to be produced by wind, but resemble rather, as a sailor would say, the outfall of two rivers, which latter begins to run southward, is the Darling, though he observes that the waters of that river are not brackish.

The climate of Australia differs considerably from that of other countries. The most remarkable as well as the most unfavourable to cultivation, is the dry season, which occasionally prevail. Captain Sturt says, 'The year 1826 commenced the fearful droughts, to which we have reason to believe the climate of New South Wales is periodically subject. It continued the two following years with unabated severity. The surface of the earth became parched up, and the minor vegetation ceased upon it. Culinary herbs were raised with difficulty; and crops failed even in the most favourable situations. Settlers drove their flocks and herds towards the sea, and lived in fear of the pastures which sufficed equally with the coast; and men at length began to despond under so alarming a visitation. It almost appeared as if the Australian sky was never again to be traversed by a cloud. These seasons without rain appear to occur every two or three years, and are followed by excessively long rains; but afterwards the rains decrease gradually, year after year, until they again wholly cease for a time. Another peculiarity is the quick transition from heat to cold. During the summer months the thermometer often sinks to 25 degrees in fifty minutes. This is owing to the sudden change of the winds. The north-west winds blowing over the great sandy deserts in the interior, attain such a degree of heat, that they become too searching to be pleasant to man. But the occasional breezes from the south-east are invigorating. The thermometer then rises suddenly from 80° to 110°. On the other hand, the south-east winds are often very cold and piercing, especially when there is a sudden shift from a hot north-western.

But, in spite of such occurrences, which are to be considered as exceptions, the climate, though somewhat too dry, is commonly delightful; and the evenings and mornings are pleasant as in southern Italy. Even the great heat which occurs does not produce relishing and enfeebling effects on the constitution. On the lower part of the coast, the thermometer ranges in summer (from September to March), between 76° and 84°, its mean elevation being 78°; and, in winter (from March to September), between 73° and 89°, its mean elevation being 81°.

In the interior, and to the west of the mountain-ranges, the wet season commonly takes place during the summer; on the coast, it commences in the beginning of the winter. Mr. Oxley thinks that the early winter winds, which prevail during the winter drive back the vapours collected from the sea, which, being attracted by the eastern declivity of the mountains, descend in rain on the country between them and the sea; but that the easterly winds, which prevail during the summer, carry the vapours over the mountains, which, being there attracted by the western declivity of the mountains, are condensed into rain.

Dews are very frequent and heavy, and sometimes they fall like a deluge. Rain storms are common in December and January.

On the low coasts frost is very little felt; but in the hilly districts it is frequent, and very keen on the high terraces on the western side of the mountains, especially on the plains of Bathurst, and the plains contiguous to them; these districts are 2000 feet above the sea. It is likewise observed, that in these parts of the country the seasons are nearly a month later than on the low district on the coast. The snow lies on the tops of the mountains, and occasionally also upon the plains for a day or two together; but it is absolutely unknown in the neighbourhood of Sidney and other parts of the coast.

The climate on the eastern coast is very favourable to health; the seasons are not known, with the exception of opthalmia, which occurs in the months of October and November, and is produced by the winds which prevail at that time. These winds, in general, are not unpleasantly warm; but they occasion in the Kauri essence, a white gum which blooms in April and May: like them, they occasion blights in vegetation, and are considered as the cause of the then prevailing opthalmia.

Many of the islands belonging to Australia contain volcanoes, and some of them are supposed by some to be of that nature. In all those islands volcanoes products abound.

IV. The Mass of Australia.—The natives of this portion of the globe belong to two races,—to the Malay, and another, which seems to constitute a separate division of the human race: the men of the white race inhabit the north of the continent, and the resemblance to the African negro, have obtained the name of Australian negroes, or Austral negroes. The first race occupies all the islands to the north of the equator, and to the south of it those which lie to the east of 50° W. long. The Austral negroes inhabit the group several islands which lie to the west of this line, as well as Van Diemen's Land, New Caledonia, the New Hebrides, New Britain, the Solomon's Archipelago, and New Guinea. In the last-named island, they go under the Malayan name of Papuans, which sometimes is used to indicate the whole race. The same race inhabits the Australian Islands, as well as the interior of some islands of the Indian Archipelago, and a few families are scattered in the central parts of the peninsula of Malacca. [See MALAY.]

The Australian jungles are traversed by Cuvier as being a branch of the African negroes, resemble them only in the colour of the skin and their woolly hair; yet even their skin is not quite black, like that of the Africans, but a sooty brown. They differ widely from each other in the form of the body, and the whole frame. Their forehead rises higher and the hinder part of the head projects more in the negro. These projects more from the face, and the lips are not so thick. The upper lip is larger and more prominent, and the forehead projects from the lower jaws to such an extent as to divide the face into two parts. Their limbs and the whole frame of their body are lean, and display nothing of the muscular strength by which the African negroes are distinguished. The vegetation of the human body is found to exist between the Caucasian race and the Austral negroes. This race seems to be purest in Van Diemen's Land and in New Guinea, the inhabitants of the continent and of the other islands having probably been crossed by some other race, perhaps the Malay.

The Austral negroes may be considered as still living in the lowest state of civilization. Cannibalism is common among them, and they do not deny it: they have neither habits, nor do they wear raiment, at least not the men; the women commonly wrap themselves up in a species of cloak made of opossum skin, or in a blanket. Wherever they intend to pass the night they kindle a fire and place a slip of bark or a bough to windward for shelter. The stores of bark and branches of wood to be attributed to their being continually on the move in search of food; for in some places along the coast, where fish and oysters are so abundant as to afford them a constant supply of fish for the table, their fish are dried up.

They have no chiefs, either elected or hereditary, and the authority of a man depends on his personal strength, and his cunning. They believe in a good spirit, Ekepa, and in a bad one, Potepe. The former is thought to watch over and protect them from the operations of the latter, and to assist them in recovering strayed children, which the other is supposed to destroy for the purpose of devouring them. They are very credulous in forest stories: they devours grubs, snakes, stinking whales, and even vegetables, with eagerness.

They are lively, good-humoured, inquisitive, and intelligent, and have the knowledge of reading and writing almost as speedily as Europeans, as they are too plucky to be subdued and extremely acute, and they possess great powers of mimicry. Their number is not great, and it was thought that the interior was uninhabited, but Captain Sturt found them in great places, and on the banks of the Murray more numerous than anywhere else.

V. Division and Settlements.—The northern and western coasts are commonly comprehended under the name of New Holland, which was given to them by the Dutch after a voyage in search of the passage to the South Sea. The northern coast is sometimes designated the Sassafras coast.
northern coast are Carpentaria, round the gulf of the same name, Arnhem’s Land, Van Diemen’s Land, De Witt’s Land, the large and almost uninhabited islands of Port and King George’s Sound, on the south-western coast, and Leewin’s Land. One half of the southern coast is called Nuyt’s Land; after this follow Flinders’ Land, Baudin’s Land, Grant’s Land, and Bass’s Land; the eastern coast, which properly should be called Cook’s Land, bears the name of New South Wales.

The English are the only nation who have founded settlements on the continent of Australia. The colony of Botany Bay, or Sydney, is in a flourishing state, but the others have not yet firmly taken root. Settlements are made on the eastern coast of the Australian continent, but only on Port and King George’s Sound, on the south-western coast, and at Swan River, in Edel’s Land, and on the northern at Melville Island, opposite Van Diemen’s Bay. A new colony is to be formed, however, in Flinders’ Land, at Spencer’s Gulf, on the southern coast, between King George’s Sound and Western Port. (See these articles.)

The last-mentioned colony has received the grant of an immense territory, which extends along the coast from Fowler’s Bay on the west, to beyond Cape Northumberland, or from 132° to 141° E. long., and comprises Flinders’ Land and Baudin’s Land. Towards the north, the boundary is to extend to the Tropic of Capricorn. A very small extent of it about Spencer’s Gulf, that of St. Vincent, and on the Murray River to the border of the territory of New South Wales, are reserved for the use of the colony.

The colony of Van Diemen’s Land appears to be in a flourishing condition. (See Van Diemen’s Land Almanac for 1833, and Tasmania, under which more appropriate name the island is now designated.)

AUSTRALIA, BOTANY OF. There is no part of the world the vegetation of which is so unlike that of all other countries as the middle and southern parts of New Holland. The plants, like the animals, are, to a very considerable extent, peculiar or peculiar in organization, that a large portion of the genera, and some entire natural orders, are absolutely unknown beyond its shores or dependent islands. So different are they of the commonest plants, that Burman, a Dutch botanist, of the school of Linnaeus, actually declared that the species of fern and fern-tree there are with the leaves twisted constantly out of their ordinary position, and with their functions inverted (Evolutia), or with transformed and dilated leaf-stalks performing the office of leaves (Aquatica), and this so commonly, that, according to the computation of Dr. Brown, if taken together, and considered with respect to the mass of vegetable matter they contain, calculated from the size as well as number of the individuals, they are perhaps nearly equal to the whole extent of that country.

Considering how imperfectly the vegetation of this remarkable continent has been examined, that of its shores or maritime districts being the only part regarding which we possess any information, and as little has been published concerning that portion of its flora which has been collected, we cannot be expected to give more than a sketch of the general relation of its plants to those of other countries, together with notices of a few of the most curious and characteristic of its vegetable productions.

Perhaps the best method of explaining the nature of the peculiar vegetation of New Holland will be by offering, in the first place, a general view of the characteristic forms of the flora within the colony of Port Jackson, and to the southward of it, including Van Diemen’s Land; and by afterwards explaining how it alters in character as it approaches the north, till it finally melts into that of the Malayan archipelago.

In the southern parts of Australia we find the concentration of all those curious forms of vegetation for which the country is so remarkable. Forests, consisting of many species of gigantic Eucalyptus, by the settled called trees, many of which are a hundred and fifty feet high, with a girth of from twenty five to forty feet, among which are intermingled wattle-trees (Acacias), with their countless mantles of yellow turfed flowers and bean-like pods; wild fowl of various kinds; and fringes of beautiful islanders (Sericatia chrysocephala), blue pigeons, and swamp pheasants (Carpodetus Pluvialis); and in some places numerous Sympotphae palms constitute the wooded part of the country. In shaded places near Port Jackson, the Coryne austrodes cormophytes its umbrageous leaves, heavily contrasting with the light and delicate many-petalled flowers of occasional tree-ferns. Nettles of an ariocarps habit, from fifteen to twenty feet high, are not uncommon, to which may be added multitudes of proteaceous plants, with their hard and woody stems, often graced with a most showy, graceful, or tall, and slenderness of leaf. A few of them contribute to produce the first sensation of surprise in a stranger who explores the uncleared country. But it is among the plants a smaller growth and a less conspicuous appearance that the botanist recognises the greatest number of new and strictly peculiar species. Many of the most beautiful flowering plants are all of a structure with which he is acquainted elsewhere: in place of the heaths and the geraniums, the ixias, and other iridescent plants, the fig-marigolds, and of the purple tetramerae, polygamous species of the dilatia tribe, looking like shrubby buttercups, and vast numbers of low and brown, flowered decandrous papilionaceous bushes. The orchids of the Cape and of the southern districts of South America are represented by totally different genera, having, however, a more decided resemblance to those of the latter than to any other country. Their floral parts are unknown, although the order exists in abundance in the form of the exclusively Australian genera, pheblum, bocora, alata, corvus, and rivotanemum, which give a striking appearance to many of the plants. In short, too, of the land are often not less peculiar: many of the southern floriferous plants are remarkable objects, especially the beautiful dioscyus corniculatus; while Goodenovia, a curious tribe nearly related to Lobelias, and Strepis, more singular in a vast number of facts with a set of plants which the botanist finds so very much more abundant in that country.

To the southward it changes but little to the region of the ordinary observer, although the naturalist may discern signs of an approach to a colder than European climate in the buttercups, anemones, and polyanthus, that appear in the cold districts of Van Diemen’s Land, the acacias and other versatile plants become uncommon, casuarinas gradually disappear, palms shrink before the cold blast from the southern pole and migrate northwards; and but a single species of tree-fern extends its territory to Van Diemen’s Land. The celery-topped pine (Podocarpus axelodetus), whose leaves taste as well as look like those of the plant from which it derives its name; and some species of callitris, form trees of remarkable appearance, rising on the sides of the mountains to the height of 4000 feet, and growing from 50 to 70 feet high.

Towards the westward the same general characteristics of the country, varied chiefly by soil, mountains, or other circumstances, still continue to exist. The shores of the procontiour of Cape Jervis are bordered with mangrove groves, and the mountainous land at the back of the coast line is covered with trees of more than ordinary size: on the very brow of Mount Lofty, at 2400 feet above the level of the sea, the trees have been measured of forty-three feet circumference. The vegetation of the neighbouring districts is said, however, to be of a far less luxuriant description, the country separating St. Vincent from Spencer’s Gulf, and the magnificent roadstead of Port Lincoln itself, being extremely arid, and being gradually extending, on account of its great number of salt-water swamps. Captain Bather, indeed, gives a much more favourable description of the country in this division of the continent, but the quality of the soil has not yet been satisfactorily ascertained.

About King George’s Sound, the extreme south-western
portion of the continent, the general appearance of the country, although of a barren nature, is very picturesque. The hills are strewn with a profusion of beautiful shrubs, flourishing among immense blocks of granite; Banksias, one of which is called by the colonists wild honeysuckle, are of extraordinary beauty; grass-trees are abundant; and the forests consist of swamp oaks (Casuarina) and gum trees (Eucalyptus), the timber of which is, however, usually decayed at the heart. No grass fit for pasture grows on the plains, which are overrun with a coarse herbage. Culinary vegetables, in the form of a kind of parsley (Aiptos pro-

A remarkable species of Xanthorrhoea, a Zamia with a stem, sometimes thirty feet high, many individuals of the genus Casuarina remarkable for their long, weeping, thread-like branches, and some of the pine tribe, belonging to the genus Callitris, and resembling the Norfolk Island pine in character, give a peculiar character to the landscape. Kangaroo-grass is said to form here, as at Port Jackson, a rich and luxuriant herbage; Banksias, which at King George's Sound are only small trees, here assume extraordinary dimensions, one of them (B. grandis) occurring 50 feet high, and more than 2 feet in diameter. A noble species of gum tree (Eucalyptus calophylla) forms a beautiful object in the scenery. The latter, and several other species of the same genus, here, as in so many other parts of Australia, form the common timber of the country. Magnificent melaleuca with scarlet flowers abound, together with leptospermum resembling weeping willows, and fragrant species of metrosideros, all cut off from the river by a belt of measles of great height and thickness. The island of Bunche is overrun with immense thickets of a solutum, ten feet high, and multitudes of arboreal species of metrosideros.

It is especially deserving of mention that in this part of the continent the vegetation of the singular plants called by botanists proteaceous, while it retains its own peculiar Aus-
talian features, yet presents a greater resemblance to the corresponding part of the flora of South Africa than that of the east side, among which a perceptible tendency to the South American forms exists, according to the observations of Dr. Brown.

Turning from this side of the continent, and resuming the consideration of the flora of the eastern coast, we find that as we approach the colony of Port Jackson, the appearance of the plants gradually changes. But a little to the northward a variety of differences are observable; the little billardierias all disappear, the arau-
caria pine begins to meet the view in Norfolk Island, and becomes plentiful within the influence of the sea air; the singular genus Pandanus, which looks like a pine-apple

[A. Gum Tree (King's Australia).—B. Xanthorrhoea.]}

(A. Gum Tree (King's Australia).—B. Xanthorrhoea.)

[B. Xanthorrhoea.] growing on a palm trunk, bears its slender stem among the woodland scenery; the blue gum-trees (Eucalyptus perriniana) acquire stupendous dimensions; and a singular proteaceous plant resembling Knightia australis appears as a common timber tree.

Near Moreton Bay the tops of the mountains are covered with a vegetation similar to that which is common at Port Jackson, the difference in latitude and the approach to the equator being, as usual, compensated by elevation of surface. In the low lands, the forests abound in a gigantic nettle, and in the valuable chestnut beard (Casuarina superba), whose seeds, when roasted, afford a wholesome instrument to the natures. Here also, in the forests near Brisbane Town, Mr. Fraser observed several species of trees upward of 150 feet high, inclosing immense iron bark trees (Eucalyptus regnans), on which originally the seeds of those fig trees had been deposited by birds. Here they were immediately vegetated, and thrown out their parasitical and rampant roots, which adhering close to the bark of the iron-tree, had followed the course of its stem downwards to the earth, where once armed their progress of growth to truly astonishing. The roots of the fig trees increase rapidly in number, envelop the iron bark, and send out at the same time such gigantic branches, that it is not unusual to see the original tree at a height of 70 or 80 feet, peeping through the fig as if itself were the parasite on the real tree. In the singular angles or scuts, as they are termed, which are formed by the roots of these trees, and
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of which many are sixteen feet high, there is room enough
to do half a dozen persons." (See Hooker’s Botanical
Museum, vol. i. p. 241.) Native cherries (Eucarpos
cupressiformis) abound, Opolea domes the weeping
willow and Horsetail trees. A species of Araucaria, and
a large number of magnifcent trees. The beach is
in some places ornamented with Hibiscus tiiliaceus,
and native bread-fruit (Pandanus pedunculata); in oth-
er places it is thickly clothed with mangroves.

Approaching towards the north, the Araucaria still
continues common; palms increase in number; a pataan (Cin-
clusia) is most abundant in a drum tract thickly wooded
between 15° and 17° S.; and a most extraordinary
caper tree, with the dumpy and enormous form of the
Baobab of Senegal, forms a striking feature. At last, on
its northern shore, the southern and Malayan
varieties are blended; species of sida and hibiscus,
which were rare in the south, become common; and Bank-
swort, the most Australian of Australian plants, disappears;

Eucalyptus indeed remains, and a melaleuca or two, like the
creeper of the east coast, composed of a species of
Malayan forms almost overpower the effect that the former
produces upon the eye. Cabbage palms (Livistona inermis),
but too small to be of use as a fresh vegetable, are
abundant; plants alike to the gumme and sandal wood are
not uncommon; and Casuarina and Pandanus contribute
to confound the Australian character of the vegetation
with that of the Indian Archipelago.

It is a common observation, that New Holland does not
possess any species of the exotie fruits thrive exceedingly in
the genial climate of many parts. This remark is very nearly correct; for it is
true that, with the exception of the Australian cranberry
(Li...the species...and a few berries of scarcely any importance,
the country is, as far as has yet been seen, entirely

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deed been detected in it; but this in itself affords little
information, since even with reference only to European
rocks, this genus is found, from the grauwacke to the
lia inclusive. The coal and associated bed of sandstone
with which they are interbedded, are for the most part
from Port Stevens to Botany Bay, occasionally ranging
into the interior, have been considered equivalent to the coal-
measures of Europe, merely from their mineralogical
characters. The following rocks (of the same nature as
above) are, we have no means of accurately judging; but it is
worthy of remark, that a fossil plant (Glossopteris Brown-
tana) detected in it is also discovered in the Damuda coal
district in India. The coal itself appears to be abundant,
and generally to a high quality, and it is estimated that
four thousand tons of it are annually raised at the
Newcastle mine, producing 4000s. at Sydney. As iron ore
appears to be also abundant on the same line of coast, we
may reasonably conjecture that the western side of Australia may be studied with iron foundations, distributing
their products over southern Asia, and among the numerous
islands of the Indian and Pacific Oceans.

Trappe rocks, varying as usual in their mineralogical
structure, appear to be common in various parts of Australia,
but their relative antiquity and their general mode of occurrence
are alike unknown to us. The Mittagong range, to the
S.W. of Sydney, is stated to be composed of these rocks,
and is considered to rise to a height of 800 feet. Sandstones of the district in a manner which might lead us to suppose that it had been protruded through them.

Mr. Sturt, in his passage down the Murray, crossed a
considerable extent of country occupied by a fossiliferous
formation which Mr. Goudie describes as that of the

estimates the thickness of this deposit to be considerable,
and that it rises to the height of about 300 feet. He has
noticed and figured many of its organic contents (see Sturt’s
Two Expeditions the Interior of Southern Australia),
whence he infers its vast extent in the tertiary cy
Be this as it may, an immense mass of marine shells has
probably been accumulated at an epoch long subsequent to
those of the limestones and coal deposits previously noticed.

The present character of the country appears to be

wards taken place, by which the highest part of the deposit
is now raised 300 feet above the sea. As yet no other rock
apparently of the same date has been noticed in Australia.

The fact which in the order of geological events next
claims our attention, is the occurrence of the bones of many
numerous animals in cliffs and caves, in the same manner
as those observable in the casierous caverns and cliffs of
Europe. The caves and fissures are in the limestone dis-

australia, geology of.

We possess so few facts respecting the geographical structure of Australia beyond an enumeration of a limited number of localities in
which granite, limestones, sandstones, and other rocks, belonging only by their mineralogical characters, occur, that to attempt even general comparisons with the known European deposits would be entirely useless. The mere occurrence of granite at any given place afforded in itself no
information as to its relative antiquity, since this rock,
consisting of a great variety of species, is of the same kind wherever it may be observed to be referable to several epochs, as is the
case with the European granites. From the desire to consider
all rocks in different countries as equivalent to some one or
other of the European deposits, the red sandstones which
occurred near Cambridge has at Yarramunda, and in other
places on the northern coast, which are found at St. Vin-
cent’s Gulf on the southern coast, and which occur at Ya-
was Plains and other situations in the interior, have been called
red sandstones. In this connection, it is only necessary to observe, that the remarkable marsupial animals, which are thickly interspersed in these deposits, are confined to Australia, and have been found in the
inhabitants of that part of our planet from a period which may perhaps be considered equivalent to the existence of elephants, or the same period, if not, in the British
islands. We may, perhaps, further infer, that since that
period there have been no movements in the solid crust of our globe, or that part of it which should permit any land to form a communication between Asia and Australia, and thus admit the passage of animals from one continent to the other. The elephant has ceased to exist, and its place has been supplied by a bear; and, on the other hand, the kangaroo and that tribe of creatures have not roamed into Asia.

It only remains for us to notice some considerable and apparently recent accumulations of sands, principally composed of the abodes of the sea, in parts of the coasts of Australia. They have been found in the gulf of Carpentaria, but are particularly remarkable on the western coast, especially in the vicinity of the new settlement of the Swan River. They are distinguished by concretions which appear to be formed from vegetable substances that have for the most part disappeared. Archdeacon Scott (Proe. of the Geological Society of London) states that, to the east of the intended town of Fremantle, 'the sand of assumes the character of a thick forest, cut down about two or three feet from the surface, so that to walk on it becomes extremely difficult, and even dangerous.' Much light is thrown on this kind of deposit by the observations of Dr. Clarke Abel, on a bank rising one hundred feet above the sea, at the Cape of Good Hope; for he detected the accumulation of sand round Aces, the calcareous matter producing a cement, which retained the other particles of sand together after the decomposition of the plant. This would also appear to have been the case in the Australian situation, according to Archdeacon Scott, attains a height of 300 feet above the sea at Mount Eliza, ten miles from the mouth of the Swan River. It is there based on red sandstones, which appears to be associated with red marl and quartzite. It is concluded to be the remains of the mountains of Darling's Range, among the argillaceous slates of which roofing slate has been detected.

The mineral riches of Australia have been little explored. Iron and coal are, as above noted, abundant; copper is stated to have been found in Cumberland, and coal and lead are also said to have been discovered. Large tracts of limestone occur on the eastern side; limestones which are capable of being worked for ornamental purposes; clays suited for the economical purposes of life are common, even in the vicinity of Sydney, where there are numerous sandstones which seem well adapted for ornamental buildings; gypsum is found abundantly both in the clay or marl extending from Bathurst to Hunter's River, and in the vicinity of the Swan River; and there is roofing slate both in the eastern and western parts of Australia.

AUSTRALIA, ZOOLOGY. In treating of the zoology of Asia and America, occasional allusion was made to the influence which the natural productions, animal as well as vegetable, of these two regions, of less extensive range, and less elevated, and therefore the earlier civilisation of their aboriginal inhabitants. We are not aware, indeed, that this influence has been properly appreciated by those who have investigated the origin and progress of human society; if perceived at all, it has been, perhaps, in so far as to lead to a reasonable consideration will convince us that it is in reality one of the circumstances which bears the most intimate relation to this important subject, and that it consequently merits the most serious attention, not of the professed zoologist alone, but more especially of the philosopher and the historian. Whatever was the original condition of mankind, it is manifest that the geographical distribution of animals, their abundance or scarcity in particular situations, their peculiarities in being adapted to the wants of other domestic purposes, must necessarily have had the most intimate connection with the original condition of our own species, and with all the earliest steps towards civilisation. Asia and Africa abound in numerous species of large gnarvus quadrupeds and gallinaceous fowls, which not only furnish human food of the best quality and in the greatest abundance, but are likewise most easily captured: many supply both food and materials for dress. The traveller is struck by the natives of Asia, which man has been enabled to domesticate and to render the instruments of his further progress in civilisation. But, in situations less favourable, where animals were rare, and of species not so well adapted for human food and clothing, as, for instance, in the north of Australia, man had to contend with numerous and, in some cases, insurmountable difficulties, which were altogether unknown to the more favoured inhabitants of the Old World. Incessantly occupied in the primary and indispensable labour of procuring a scanty and precarious subsistence, badly protected by insufficient covering from the effects of the weather, and subject at all times to frequent and long-continued fasts, he possessed neither the means of supporting a large family, nor the means of improving his condition by the development of his natural faculties. Under such circumstances it was impossible for any considerable progress to be made in the arts of civilised life; the females also of the American and Australian savages are notoriously less prolific than the women of these civilised continents; and the aboriginal population of those countries, in relation to their extent, is extremely scanty in comparison with that of Europe, Asia, or even Africa. Hence it is not improbable, in a great degree, that the inhabitants of the New World were found to be so far behind those of the Old in point of civilisation and social improvement; or if this general rule finds an exception in the case of the ancient nations of Mexico and Peru, it is a rare and partial instance, and appears to depend upon local and peculiar circumstances.

These reflections will prepare us for forming a just estimate of some of the causes which appear to have operated in preventing the improvement of the Australian savage. When applied to the physical circumstances of his country, and more particularly to the peculiarities of Australian zoology, as exhibited in the following table, they will enable us not only to appreciate some of the reasons of his condition, but also to perceive the actual causes which prevent the increase of the species.

ORDER.

| Whole No. of known | No. of species | Proportion.
|-------------------|---------------|-------------
|                |               |             |
| Quadrupeds & Rept. | Quadrupeds & Rept. | Quadrupeds & Rept. |
| I. Quadrupeds     | 164           | 0           | 0 |
| II. Chiroptera    | 193           | 3           | 3 |
| III. Carnivora    | 290           | 10          | 0 |
| IV. Marsuparia    | 67            | 43          | 48 |
| V. Rodentia       | 262           | 0           | 0 |
| VI. Edentata      | 83            | 0           | 0 |
| VII. Pachyderma   | 27            | 0           | 0 |
| VIII. Ruminantia  | 157           | 0           | 0 |
| IX. Cetacea       | 15            | 0           | 0 |

Total 1846

The first observation which we have to make upon the mammalogy of Australia, as exhibited in this table, is the very small number of species which inhabit this continent when compared with the actual extent of the country, of the whole of which many parts are barren and uninhabited. The disproportion will be rendered still more striking, if we deduct from the total number 75, the 22 species of marine mammals, viz., 13 cetacea and 9 seals (phocae), which are included in the table. We thus find that the mammalia and birds of Australia amount to no more than 53 different species, forming scarcely the one twenty-fourth part of the whole number of known quadrupeds; a very limited proportion indeed when compared with the relative size of the country.

Nur is the small number of distinct species the only peculiarity which is observable in regard to the number of mammals which inhabit this country; the scarcity of individuals is quite as remarkable as that of species; and the traveller in this country will frequently journey for weeks together, and pass over many hundreds of miles of country without meeting with a single quadruped. The cause of this peculiarity is to be sought for in the physical conformation of the animals themselves, rather than in the peculiarity of the country: the few species of them by the natives, for, as may be observed from the table, the great majority of Australian mammals belong to the Marsupial order, of which the species are less prolific, and the traveller will find those animals to arrive at maturity, than those of any other group of quadrupeds. It will be readily perceived that these two circumstances, the paucity of distinct species, and the scarcity of individuals in the several species among the mammals of Australia, must have presented, at all events, a formidable barrier to the increase of population and the advancement of civilised society in the part of the world.

The second peculiarity in the mammalogy of Australia, so that after abstracting, as before, the 22 marine species from
The number included in the table, viz. the 19 Carnivora and their allies comprised among the Carnivora, will be found to be the result of the exclusion of all species of the sub-class Macropodamygdalina, peculiar to that continent; or, in other words, that there is not a single Australian species common to that and any other part of the known world. This is a very singular circumstance, and one well worthy of mention, as it will assist in finding ample scope for conjecture in so curious and unique a phenomenon.

But there is a third observation which we have to make upon the geographical distribution of quadrupeds as indications of the habits of tribes. As we have seen, there are the least with very few exceptions, all the quadrupeds of Australia, at least all the terrestrial species, belong to the Marsupial order. Thus if, as before, we subtract the 29 marsupial species from the total number of Australian mammals, we have only 240, or less than 240, or about four-fifths of the entire amount, belonging to this tribe; and the circumstance is rendered still more singular by the consideration that very few animals of this order exist in any other part of the world, the few extra-Australian species being, with the single exception of the common oppossum (Didelphys virginiana), which inhabits the southern provinces of the United States, confined to the tropical parts of South America, and to the larger islands of the Pacific. The only other species of this tribe is the extraordinarily anomalous, the northern coast of New Holland. Australia these are the head-quarters of this extraordinary and anomalous tribe; a race which seems almost all the distinguishing attributes of every other tribe of quadrupeds with the crows, the penguins, the whales, the seals, and the fur seals, and the best-informed Mammologist who could be consulted, is of opinion that the marsupial tribe is a separate one; and one or two of the marsupial tribes is more properly discussed under the article Marsupials, to which we refer.

The last observation which we must make in the present view of the geographical table, is that the country is entirely destitute of both pachydermatic and ruminating animals—that is, of all those species which are best adapted for human food and for the various purposes of social economy. It will be readily admitted that the entire wild life of the country which has already been made upon the connection between the geographical distribution of animals, especially those which are most applicable to the purposes of human life, and the civilization of mankind, that this circumstance must have at all times exerted a powerful influence over the social condition of the aboriginal inhabitants of Australia; and that it readily explains, not the thinness of population which exists in this extensive country, but likewise the abject and degraded condition to which its savages are, by nature, and generally found. A precarious supply of fish, shell-fish, and roots, supplies the chief part of their subsistence; many have been observed greedily devouring the most disgusting reptiles, worms, and caterpillars; land animals, as well as the birds which even the savage notices his country, and even when met with, difficult to obtain; a kangaroo was occasionally surprised, or run down by dogs as wild and savage as their masters, but the small arboreal phascolargias and pristamias could only be obtained by burning our cuttings down the trees in which they were discovered.

The natives had no contrivance to shoot or ensare birds, nor could they capture the dolphins and seals which abound on their coasts, like the Esquimaux and Greenlanders. Under these circumstances, it is extremely probable that the native Australian could have ever emerged, by any possible exertions of his own, from the savage condition in which he was found by his European discoverers.

We now proceed to a more particular consideration of Australia. Almost as well as any other country, this extensive country is entirely destitute of quadrumanous animals, such as monkeys and lemurs, as well as of pachydermatic and ruminating animals. The chiropters, or winged quadrupeds, consist, as at present known, of but two species, one of which is rare and migrates, according to the season; the other, a small bat, not unlike the species so common in our own country. It was the former of these animals which so greatly frightened the two companions of the Beagle's voyage, who, when they were returned trembling from a short excursion on shore, declared that he had met the devil creeping slowly through the grass, but that his terror prevented him from making any other observation than that he had long horns, and was about the size of a nine-gallon keg. This species probably visits the lakes of the Indian Archipelago; like all the frugivorous beta, its flesh is white and tender, and is said to resemble chicken.

Of the order Carnivora, ten species are inserted in the table as inhabitants of Australia; five peculiar to that continent, and five common to it and other countries. Of these ten, however, nine are marine mammals, belonging to the seal genus (Phoca), and comprehending the sea lion, sea beaver, and other animals of the same tribe. The one remaining animal of this order is the dog, a variety of intermediate size, with prick ears and a wolfish appearance, which is found both wild and in a semi-domestic state among the natives. It is not known, unquestionably the most widely-spreading domestic animals after the dog, had been familiar with this latter animal from time immemorial; and indeed, by all appearances, it seems to be the first inhabitant of the forest which was reclaimed and mastered by mankind. Once domesticated, it may be readily conceived that the dog would ever after remain the inseparable friend and companion of man; and hence it is that they are found together in all the different groups of islands scattered through the Pacific Ocean, for instance, where no game exists, and where, consequently, he can be no longer turned to the pure nature of a wild beast for his sustenance. On the contrary, he is still found, though under widely different circumstances, being regularly fatted for the knife, and considered as a dainty reserved only for the tables of the chieft and great men. Its size and beauty, the texture of its fur, the form of its body, which is long, lean, and sharp, the peculiarities of its voice, comprehends the great majority of Australian mammals, and forms the principal character of the zoology of this part of the world. The forty-three species of this tribe marked in the table belong to eight natural genera, which are well defined and well marked, and which conform to the premature production and subsequent nutrition of the young in a pouch or bag with which nature has provided the female parents, and from which the order derives its name of Marsupialia, but differing widely in all the other peculiarities which have given it so peculiar a name. The marsupial order has been divided into six small families, and the peculiar distinctions have not been very clearly determined even by zoologists. Among the larger species, the common kangaroo, called the 'forester,' and the 'old man' in New South Wales (M. labius), the red and woolly kangaroos large (M. rufus) and smaller (M. rufus), and still larger, and the woolly and brown, with the brown and black, and the brown and white, and the grey and brown, all extend from New South Wales to Van Diemen's Land, at least the same local names are applied to animals inhabiting both these colonies, but they have never been sufficiently compared, nor is the identity of the species established upon any better grounds than that of the names applied to them in these two localities.

The potorous, or kangaroo-rats (Hyperphryneus), are very
The bandicoots (Perameles) compose a very remarkable genus which does not admit of a ready comparison with any other. They are a group of animals likely to appeal to the curiosity of readers. With a dental system and even an outward form which very much assimilate them to the larger shrews and other insectivorous mammals, they unite the habits and appearance of the ordinary carnivorous quadrupeds, but apparently live exclusively upon roots and other vegetable substances. Their habits are similar to those of the kangaroo-rats, excepting that they do not hop upon the hind legs only, but use all the four extremities in the act of progression, like ordinary burrowing animals. The form becomes visible only during the daytime in natural crevices, or under fallen timber, more about only during the night-time, and are not considered fit for human food. Two species only have been described, P. australis, and P. obsoleta, both found within the colony of New South Wales.

Two other genera of Australian mammals, the dasyures, (Dasyurus), and thyylacynas (Thylacynus), partake of the habits and appearance of the ordinary carnivorous quadrupeds, and appear to unite this tribe of animals with the marsupials in general. The first of these genera, called Dasyurus (i.e., hairy-tails), to distinguish them from the naked-tailed opossums of America, with which many naturalists had previously confounded them, is a large genus, generally of small size, and agreeably marked with various white spots on a black, olive, or russet ground. Their habits and mode of life generally resemble those of the martins and polecats of Europe; they are nocturnal, browse and feed about five for a week, on roots, buds, and small prey. Six or seven species have been described. The turbine dasyure (D. setosus), or native devil, as it is called by the colonists, is perhaps the ugliest and most disgusting looking quadruped in nature. It walks very short, its body thick and heavy, and its head and legs large and disproportioned to its other dimensions. It inhabits the coast of Van Diemen's Land, sleeping during the day-time in holes among the rocks, and moving abroad during the night in quest of dead seals and other marine productions which compose its food. The D. macrourus, D. riverrumus, and D. mansehen, are found in Van Diemen's Land as well as on the continent of Australia, and are sometimes called native cats by the colonists, not from any close resemblance which they bear to cats, but from some slight similarity in their habits, as they climb trees readily in pursuit of small birds, and capture their prey more by address than by open force. The D. penicillata, called the sugar squirrel by the colonists, a name which is also sometimes applied to the petasurus scuratus, is about the size of a common cat, of a uniform ash light colour, and has the tail terminated by a pencil of long black hair. It roams entirely among the branches of trees, chiefly of the myrtaceous order, and in all probability never leaves its name, and appears to live for the most part upon the larger night insects, and probably upon the eggs and young of small birds. The smallest known species is the D. penicillata, a small marsupial, or mouse dog, of the colonists, which is not larger than the little animal with which it has been referred to it, and which, like the sugar squirrel, resides upon trees, and lives principally if not entirely upon insects.

The habitat of the thylacynas contains but a single known species, Thylacynus carnifex, and that apparently confided to Van Diemen's Land. It is about as large as a moderate sized dog, and not unlike the canine species in general form and appearance, except that it is longer in the body and has shorter legs. Its colour is a uniform reddish brown marked across the back with a black stripe, and seen on the legs or sides, a very regularly arranged, and terminating singly upon the sides. Like the generality of marsupial animals, it is nocturnal in its habits, generally keeping concealed on the land and under cover, coming forth at night in search of prey, and often committing depredations among the lambs of the colonists of Van Diemen's Land, as the dasyures do in the poultry-yards of New South Wales. For this reason the thylacine is keenly hunted by the colonists, and its vast distance from the nearest settlement does not prevent its being a cowardly animal, and easily wounded by a courageous dog.

Of the five species of Rodentia included in the tabular distribution of Australian mammals, those belonging to the genus Allocotis and in the family of the Hylomyminae, are the only two compose the genus Allocotis. The former are but little different from the common species of rats and mice in other parts of the world.
the latter are merely distinguished by their larger size, long, bony tails, and palmed hind feet, which assimilate them in some measure to the beavers and coypus of America. They are aquatic in their habits, and are found in most of the rivers both of Van Diemen's Land and New South Wales.

The two Edentata, inserted in the table, belong equally if not more properly to the marsupial order, partaking, indeed, of the characters of both of these tribes, and forming the connecting link by which they are united. These animals are of a very curious kind, the males of some of them being quadrupeds that have ever been discovered. Though they are certainly quadrupeds in the great majority of their characters, yet their organs of mastication more nearly resemble the bills of birds than the corresponding parts of other mammals. The female of this tribe is not the same as the male; they are true mammals, and nourish their young by a milk secretion like all other animals of the same class, yet it is still a matter of keen dispute among naturalists and physiologists whether they produce their young alive, or lay eggs and hatch them like birds, or rather perhaps like reptiles, for the whole detail of their organization seems to point them out as intermediate between this class and the ordinary mammals, rather than between mammals and birds. Many native names are given to these animals, in the Ormthorhychus and Echidna. The former, often called the duck-billed animal, from the form of its head and face, resides in rivers and ponds, where in fact, like ducks, it lives principally by searching for seeds and insects among the vegetation of the banks. For this purpose it is armed with a complicated and delicate tissue of nerves, which enables it to distinguish its food from the small mud and gravel with which it is mixed, and it is induced by small grains along the sides so as to permit it to strain off the mud. It is also, at the same time, forms deep burrows along the banks of the rivers, which are provided with two entrances, one above and the other below the level of the stream, so as to afford it a refuge from the force of the current, and is lined with it in the same way. Some naturalists reckon two species of Ormthorhynchus, the O. rufus, and O. fuscus; others consider them both as varieties of the same species, to which they give the name of O. paradoxus. The genus Echidna, thought to agree in its general structure, and in the very anomalous nature of its production with the orphantorhynchus, yet differs widely from that animal in its external appearance, as also in its habits and economy. It is covered with short, soft prickles not unlike those of a porcupine, feeds upon insects and small animals, and bears its young live. The males, both in the male and female quarters, are reared by the females, with deep burrows of its own formation, and hibernates or sleeps during the winter season. Of this genus there are two species, one without and the other with spines; these species form very important items in the annual colonial exports.

The ornithology of Australia, though far from being so peculiar and anomalous as its mammalogy, contains, nevertheless, many new and singular forms, and wants many of the names. It is one of the parts of which we are most in want of information, and the speculation has been a most important accession to the general resources and prosperity of the colonies. The seal fishery has also been attended with considerable success, and some of these forms form very important items in the annual colonial exports.

The coast of Australia has been long known as the occasional resort of immense shoals of whales, dolphins, and other cetaceous animals, and the enterprising parts of the racings established in that quarter of the globe has found a favourable and successful outlet in the fishery for these animals. Many vessels are now annually fitted out from Sydney and Hobart's Town for this valuable branch of commerce, and the success with which they have attended the speculation has been a most important accession to the general resources and prosperity of the colonies. The seal fishery has also been attended with considerable success, and some of these forms form very important items in the annual colonial exports.

The ornithology of Australia, though far from being so peculiar and anomalous as its mammalogy, contains, nevertheless, many new and singular forms, and wants many of the names. It is one of the parts of which we are most in want of information. The presence of alarming species of hawks abound everywhere, as well as owls of different kinds. The common peregrine falcon (Falco peregrinus), and the barn-owl of Europe (Tyto alba) are seen with more frequency than in the same species in England. There are, however, no vultures throughout the whole extent of Australia and its dependencies, a fact probably to be explained by the absence of large carnivorous animals, upon the existence of which this species have been dependent, and which, as we have already seen, are wanting in the animals of Australia. Insectivorous or perching birds are extremely numerous every where, but not sufficiently remarkable to require a detailed enumeration. Among the Scansorial order, there exists a vast variety of the parrot tribe, comprising, among others, many beautiful species of pigeons and cockatoos, which surpass those of the Old World in the variety and ornament of their plumage. These birds are held in great detestation by the natives, of whose furtive incursions upon the fields of Indian corn and other agricultural produce their loud and incessant screaming gives notice, and among which they are consequently considered to be in league with the devil, the black and white colour of both the confederates furnishes an unanswerable argument in the logic of these simple savages for the truth of this foolish belief. But the most remarkable fact in the ornithology of this country is the total absence of gallinaceous birds. This is the tribe which among birds corresponds with the ruminating animals among quadrupeds, and which contains those species which are best adapted for human food and the domestic economy of life. We have already seen that the analogious tribe of mammals is a stranger to this part of the world, and here again we find that it is equally deprived of the common fowl, pheasants, turkeys, guinea-hens, &c. which form no unimportant resource for the aborigine in addition to the common game, which in farm-yards and filled the preserves of civilized nations. Doves and pigeons of various species indeed abound in many parts of New Holland, and the menura (menura superba) approaches still more nearly to the ordinary gallinaceous birds by its habits, but it is of too inaccessible a size to have furnished any peculiar resources to the aborigines. The tribe of birds most important in human economy after the gallinaceous or rousers, are the nartaors, or water-fowl, and of these New Holland and the neighbouring islands offer a bountiful supply. It will be sufficient in this place to mention the cormorant, and the black swan, the 'rara avis' so little dreamt of by the Roman poet, which now breeds spontaneously in England, and is brought in great numbers for the rotation of the curious. It is rather smaller than the common white swan, but with a neck proportionably longer, and a carriage, if possible, still more graceful.

Of the reptiles and fishes of Australia no detailed or regular accounts have yet been published. A species of crocodile or alligator is said to frequent the western coasts of the continent and the shores of New Zealand; and various descriptions of smaller reptiles and snakes, very few of which are venomous, are found in different parts of the country. Freshwater abounds with fish, and five species of sharks have been described as frequenting the neighbourhood of Botany Bay and Port Jackson, but very little is known upon this department of Australian zoology. Nothing has been sufficiently investigated. There is reason, however, to believe that it contains nothing that would entitle it to a very detailed notice in a sketch like the present.

AUSTRIA, EMPIRE OF. Noricum, in remoter ages a wild tract of country, which has the appearance of having once been covered with water, extended from the Julian and Carnic, or Carinthian Alps, to the right bank of the Danube, and from Mount Cetus to the Rhodian borders. From this inconsiderable region, for its area scarcely exceeded that of the present archduchy of Austria itself, sprung the 'Oesterr. k. 'Eastern territory of the Empire,' or 'Western Mark of the Empire of the Franks,' as it was designated by Charlemagne, when towards the close of the eighth century he retook the territory, which had been ceded with great times with the German empire. This once wild and inhospitable region has given birth to a race of rulers who have gradually united kingdoms and principalities under their dominion, which now comprehends nearly one-twelfth of the entire surface of the globe, and which, by the birth of the marzaker Odoacer, by whose hand the last of the Cesar's fell, has become the centre of an empire, which, for diversity of component parts, strongly resembles the once gigantic empire of imperial Rome. Those parts, indeed, are so far more dissimilar than the territories of the same name in other parts of the world, that it is difficult to imagine them as capable of assimilation, and they are separated in language, usages, and prejudices; so far from being united into one nation, they are held together by a solitary link—that of subordination to a common sovereign.

Through the great variations of productions in this empire, as we have observed, nearly one-twelfth of the surface of Europe, they constitute only the third point in point of
extent, among its monarchies; for the European territory of Russia is full eight times, and the Swedish one-twelfth, more extensive. The 'Campania of Germany,' as the Austrian empire has been not inaptly designated, makes a compact dominion, to which its southernmost extensive narrow strip of Danubia, forms only an exception. It lies between 42° and 52° N. lat., and 9° and 27° E. long., occupying an area of 255,926 square geographical miles, the circuit of which has been estimated at 4600 miles. It thus spurs over nine degrees of latitude, and eighteen of longitude, and uses the new configuration given to it by the treaty of Paris, in 1814, and the adjustment made by the Congress of Vienna in the following year, extends from the castle of St. Stephen, thirty miles below Carlsbad, in the north, to the town of the Po, in Upper Italy, to the sources of the Spree, close upon Prussian Livonia, and almost to the walls of Sandomir, in Polish Russia; and from its extreme western point, the hamlet of Engers, at the southern end of the Lake Maggiore in Lombardy, to Kheinsia in Bessarabia, which lies close upon its most eastern border. The territories of Saxony and Prussian Silesia bound the Austrian dominions on the north-east and north, the former for 250 and the latter for near 920 miles next to the territory of the republic of Cracow; and, in the same direction, conjointly with their eastern frontier, the Russian provinces of Polesia, Volhynia, and Bessarabia border them for a distance of near 920 miles, and in it and in the eastern limits of the Austrian dominions are the most vulnerable, as the frontier is entirely open in the north-east for 160 or 190 miles. The remainder of the eastern and larger portion of the southern confines adjoin the Turkish provinces of Moldavia, Wallachia, and Bessarabia, with nearly 1400 miles. The Adrian washes the Austrian shore for 650 miles; the land boundary on the south skirts the dominions of the Roman Sea about 60 miles, of Modena and Parma 120, and of the Sardinian States about 180. The eastern limits of the Austrian dominions, in their course from the south to the north, border for an extent of 330 miles on the Swiss cantons of Ticino, the Valais, and St. Gallen; of 14 on the principality of Liechtenstein; of nearly 200 on Lake Constance; and of 550 and upwards on the kingdom of Bavaria. The extreme length of the Austrian Empire has been estimated at 870, and its greatest breadth at 950 miles.

The territorial surface of the Austrian dominions has been variously stated by the best writers on the subject: for instance, estimates it at 255,926 square geographical miles; Lichtenstein at 253,183; Rohrer at 253,736; Häsler at 257,286; and Blumenbach, whose authority appears to have been followed by Hörschelmann, in his new edition of Kohl's Statistical Geography, at 260,453. In the statement, however, which we are about to give, we have preferred to abide by the dimensions assigned by Rohrer, whose Statistics of the Austrian Empire are generally reputed to have been founded on semi-official documents.

The soil is of endless variety, but in general favoured by a mild and genial climate, and distinguished by remarkable productiveness.

Slavonia and the south-eastern and central parts of Hungary (and we mean in the strictest sense of the term, although the subdivision of this vast monarchy) present a wide expanse of low land, abounding in clay and marl, and of subsoil fertility, yet lying in immediate contact with and, nearly steppe, and extensive marshes, which occupy more than 4000 square miles of the Hungarian plains. The tracts of these steppe however have been, and more are in process of being, reclaimed and brought under cultivation. This very territory, however, in its northern and western districts, is characterized by mountain and forest, and is encompassed in the north by the Carpathian mountains, which extend in a broad semicircle from Pressburg, one of the most westerly points of Hungary, to its eastern confines, and their offsets also strike deep into the interior of the country; in the west, various branches and groups of the Cetian, Styrian, and Julian Alps cover a large portion of
its surface. The lowland of which we have spoken occupies about 25,000 square miles; the larger portion, an area of about 1,000,000 miles, lies between the Danube and the Transylvanian mountains, and is watered by that river and the Tisza for a length of upwards of 500 miles, and interspersed with extensive plains and morasses. The smaller plain in the west, stretching eastward from the Neusiedler Lake, with a breadth of nearly 120 miles beyond Gran, and along each bank of the Danube, comprises an area of upwards of 4,000 square miles, which is remarkable for its fertility.

The general character of the Hungarian soil, exclusive of the more northerly districts and such as are partially a waste of barren sand and swamp, or whose soil is saturated, as in many eastern districts, with saltpetre, is that of great produce, especially in the earlier months of the year. The corn is especially abundant in the environs of Belgrade. In the middle of June, when the harvest begins in the plains, the corn is scarcely seen in the higher regions. The temperature is, on the whole, higher than that of Germany; and though the unwholesome vapours from the marshy bottoms and swamps, taw, properly swamp, may be prejudicial to health in a few quarters, it were unjust to say, as it has been said, of Hungary, that it is the "barren-place of Germany." It abounds in rivers, streams, lakes, and possessed some considerable canals; is richer than most countries on the plains, and is supplied with an abundant mineral and forest produce.

South of Hungary lie the former principalities of Croatia and Slavonia, the larger portion of which are now incorporated in the Austrian empire. In the northwestern quarter, the maritime territory from Fiume to Carlsborg, is intersected by a continuation of the Carinthian chain, to which is owing its alternation of plain and highland, and its variable though generally salubrious climate. Where the Tisza is interrupted by the Sremska Drava, it is productive; in more elevated situations it is a cold clay; and near the coast, marsh and sand abound. Nine-tenths of the surface produce grain, wine, fruit, and tobacco, but, above all, cotton and hemp.

Slavonia, the northern districts of which are separated from Hungary by the Drave and Danube, whilst the southern are watered by the Save, is traversed in its whole length from west to east by mountains and hills: the principal hill is the Srednji Vrh, or Donava, in Croatia, and subsidises not far beyond its eastern limits. The rest of the province has an undulating surface, which gives some variety to its spacious and fruitful plains. With the exception of the swamps that range along the banks of the Save, the usual soil of the province is of the nigroid kind, and its productions are wine, silk, hemp, spirits, fruit, iron, and coal.

Nearly the whole of the western frontier of the arch principality of Transylvania borders on the Hungarian territory, and is only separated from the latter by the Salzach, with a lower course on the Danube. This province surface is at a much greater elevation than the neighbouring territories, and slopes gradually from the north-easterly border of the province to the south-westerly point, where the Morosch discharges its fertilising stream into Hungary. Transylvania is watered by two great rivers, the Tisza and the Drave, but abounds in valleys, some of which are of considerable extent, finely wooded, and inferior to none in Europe for beauty of scenery and fertility. It is full of lakes and natural mineral waters. In the more elevated regions, the climate is raw and cold; but, below them, it is temperate and pure: no part of the province can be termed unhealthy. The highlands being generally covered with forests, timber is the chief Transylvanian produce: gold, silver, iron, and copper are found in the province. In other respects Transylvania is characterized by nearly the same class of productions as Hungary.

North of the Carpathians, which separate Hungary from Galicia, the Galician plains gradually sloping from the mountains till it opens upon the extensive flat, of which a hill or river's bank seldom relieves the monotony, and the distant North Sea and the Baltic form the northern boundaries. Galicia, though it contains many sandy tracts, is, next to Hungary, a principal granary of the Austrian states, and supplies large quantities of salt, some precious metals, and many other mineral and vegetable productions. Its soil is of very varied character; in the west, but more particularly in the vicinity of the San, it is mostly sandy and dry, and far inferior in all respects to the eastern parts of the province, which are watered by the Dunajec and covered with a moist cold loam, and beds of chalk. These beds are intersected with layers of granite, gneiss, and quartz, and here and there rise from the surface into low hills; and the Galician soil is no where so productive as in the districts of Zucnoff and Stanislavow. In climate Galicia differs much from northern temperature, for there are few parts in which the cold influence of the Carpathian atmosphere is not sensibly felt: hence the grape and most other fruits do not generally ripen.

The south-western limits of Galicia adjoin the high mountain regions of Austrian Silesia, a country as poor in grain as it is abundant in pastures and timber, and known, in common with Moravia and Bohemia, for its growth of flax and its linen manufactures.

South-west of Silesia lies Moravia, which, compared with the adjacent regions of Hungary or Bohemia, has a far milder climate; it is mountainous in its eastern, northern, and western districts, but low and open towards the centre and south, the rich olive groves which has been given a land of maize and wine. In this direction it presents a line of rich and finely-cultivated plains; but the remainder of the province, occupying upwards of one-half of its area, is intersected by arms of the Sudetsch and Carpathian ranges, which divide it into three main divisions, viz., namely, fertile valleys. The greater portion of the province is from 600 to 900 feet above the level of the sea.

West of Moravia lies the great 'Cauldron Plain' of Bohemia, bound on every side by the granitic-based chain of the Bohemian mountains, and crossed by two arms of the Moravian, Böhmerwald, and Ore (Erzgebirge) mountains, which send out their offsets into the interior of the country. The heart of this kingdom presents a surface of gentle undulations, studded in many parts with lofty crags, and intersected close upon the verge of the coniferous forest by the great valley of the Elbe. This country lies so high, that it has scarcely a river which does not rise within its own boundary and is derived directly from the springs of the side of Bohemia, and is equidistant from the Baltic and Adriatic, and enjoys a mild, regular, and healthy temperature; but the climate is raw and variable over the larger part of its surface, which is occupied by the highlands and mountains, Bohemia is rich in coal, copper, iron, and manganese; and the arable and otherwise productive lands, although nearly two-thirds of the surface are occupied by woods and forests, extend over four-sevenths of the Bohemian territory.

The Archduchy of Austria consists of two provinces; the 'lower province' is intersected on the confines of Styria by a branch of the Noric Alps, and its centre by one of their smaller arms, the Cetian mountains, whilst the warm and fertile valley of the Danube traverses this and the Tyrolese. The 'higher province,' which forms the western part of the archduchy, is a mountain region, the southern portion of which abounds in the lofty peaks, glaciers, and valleys which distinguish the Noric Alps; the northern contains part of the last mentioned summits of the Bohemian Forest chain or Böhmerwald Gebirge. The 'lower province' is poor as a corn country; but produces much fruit and wine, iron, silver, coal, and lead, and is, in a manufacturing point of view, considered as the Lancashire of Austria. The upper province, which includes the Salzburg territory, and contains, in proportion to its extent, more rivers and lakes than any other district in the empire, has a soil which, in spite of the skill and unceasing industry of its inhabitants, does not yield sufficient produce to support such quantities of fruit, hay, oats, and salt, and produces much iron, and some considerable supplies of gold, silver, lead, copper, and other metals.

Styria, which the Archduchy bounds on the north, is considered almost entirely covered in its northern and western districts, by those majestic arms of the Julian Alps known by the name of the 'Styrian Alps.' The southern and eastern districts contain few lofty heights, and are intersected by gentle hills, the space between which are filled up by broad and well-cultivated valleys. The whole of the province, which seems naturally to divide itself into Upper and Lower Styria, is amply provided with rivers and streams, whose rich pastures, and abundant crops of every kind of grain, of clover, vegetables, fruit, and wines, and the races of horses and cattle. Besides this, no country of the
same extent in Europe is more valuable for its stores of salt, iron, steel, and tin, and its works and manufactures.

West of this duchy lies one of the most ancient possessions of the crown of Austria, the earldom of the Tyrol, which, in conjunction with Upper Austria, has been denominated the 'German Switzerland.' The Rhine forms the lower part of the most elevated mountains in the Austrian dominions, which run through this province from the Grisons frontier to the Illirian, and meet the Noric on that of Upper Austria, are scarcely less lofty than the Alps of Switzerland. The Puster valley in the Tyrol's interior elevation, from the sources of the Etsch, or Adige, in a direct north-easterly line to the valley of the Ziller; and the Mittelberg, or mountains of middle elevation, on whose more fertile plains the town of Bozen or Bolzano looks down, is a valley, the Tyrol and its adjoining plains and valley, where the Tyroloese lowlands have derived their appropriate name of 'Thaler,' or vales, of which about twenty-nine are dotted with town or village, and fertilized by the waters of the Inn, Etsch, Brenta, and a number of other streams. The air is generally pure and keen, though, in the south, the effect of the scirocco is partially felt. The chief products are horses and cattle, grain, wine, fruit, potatoes, timber, salt, iron, copper, silver, lead, and a little gold.

The junction of which touches the eastern borders of the Tyrol, and is composed of the duchies of Carnithia and Carniola, the territory of Triest, Austrian Frioul, Istrius, a portion of Croatia, and the Quarnero Islands at the head of the Adriatic, is principally cultivated in vineyards. The Tergeste, or northern part of the Drave is traversed by the Noric Alps, which extend to the banks of that river; south of it, and next to the Italian frontier, the Carinthian range separates the territory of the Sava and Isonzo from the Drave, and is in contrast with the numberless limestone hills, generally unfavourable to vegetation, and exposed to the prevailing north-easterly wind. The Künstland itself, liable to incessant tempests and burning beats, and by nature sterile and uncultivable, would be a desolate waste but for the industry of its inhabitants, who extort their precarious crops from the most perverse of soils. No country can be more varied in climate than Illiria: in the north, where so many of its mountains are capped with perpetual snows, a pure and bracing atmosphere conduces to health and longevity; and, especially in the vicinity of the mountains, the surface changes to most agreeable and fertile marshes. The maritime districts on the Adriatic are flat and sandy, and abound in lakes of stagnant water, which have been gradually created by the numerous streams which seek an outlet in this dreary waste.

In severe winters, the thermometer has descended 20° of Fahrenheit below the freezing point; snow has been known to lie upon the ground for weeks; and even the lagunas of Venice at times have been covered with ice. In Lombardy, the autumn is long, the winter short, and the continued recurrence of heavy rains, which last two months at a time, or more. The air of the high lands is keen and bracing. On the whole, except the parts in which the marshes and mud-mires, the clays and peats, are considerable, the climate of Lombardy and Venice is unquestionably salubrious. The soil, in addition to most of the usual sorts of grain, produces maize, rice, and millet; pea, beans, potatoes, hemp, and flax; vegetables and fruits of all kinds, which are become almost necessary of life in this climate; and, in some parts, saffron. Such as Lombardy in particular is in pasture land, there is a scarcely a possession of the Austrian crown where the rearing of cattle is in general more neglected; we must, however, exclude from this remark the district of the Breggia, the lakes of Como and Maggiore, where the farms of the peasantry are considerable.

There is no branch of industry more carefully or profitably cultivated than the raising and manufacture of silk; the Alpine districts, too, yield considerable quantities of wool, cotton, wool, and other manufactures.

Mountains.—The larger portion of the Austrian dominions, especially the south-western and eastern provinces, is occupied by mountains, which send out numerous lofty and wide-spreading branches. Their position, to a certain extent, breaks up the Austrian territory into separate parts, and throws great difficulties in the way of internal communication; at the same time, these numerous mountain-ranges give that manifold character to the productions of the different districts which connects them by lines of communication, and renders them independent of each other.

We shall commence our view with the chains which are most remarkable for their extent and elevation.

In the south, the Rhetic or Tyrolean Alps, the greatest range in the Austrian territory, near the southern boundary of the province, entering the Tyrol from the Grisons, beginning on the Austrian side with the highest mountain in the whole empire, namely, the Ortellus, or Ortiers Spitze, at an elevation of 2654 feet above the level of the sea, is divided by the Adda, and extends in a north-easterly direction, covering the Tyrol with its enormous masses, until it terminates at the Three Lords Peak (Drethren-spitze), near the borders of Carnithia, and at no great distance from the source of the Salza, which, at its partial confluence with the branches of the Rhetic Alps is one which heads easterly towards the source of the Mulr, in the circle of Salzburg.
and then running northward westward, from the Tram and Ena, divides into several arms of considerable elevation, which embrace the ancient Fossato, and branch stretches in a southerly direction to the Mont Peligrino, close upon the frontiers of the Tyrolian and Venetian territories, and sends forth its arms under the name of the Lagn, which forms a long and narrow arm which lies between the Lago di Garda and the Brenta, and the Euganean and Venetian hills. In connexion with the Rhetian chain are—2nd, the Noric Alps, which commence at the Three Lords Peak, traverse the whole of Carinthia which lies on the western side of the sources of the L. Lomnitz, traverse the Styria, spread into Lower and Upper Austria, and gradually subside into the plains of Oedenburg in Hungary. A limestome range, to which the Semmering, between Lower Austria and Styria, belongs, accompanies this chain, which, rising into the southern or Galician, and ending in the highlands, called both the Joseph and Leopold's Berge, look down upon the plain in which Vienna is situated. Connected also with the Rhetian, are—3rd, the Carnic or Carnicolum Alps, which commence the Mont Peligrino, in the southernmost Tyrol, run south-eastward through the Illrian provinces of Carniola and Carniola, and gradually subside in the knownland, or government of Treast, on the Adriatic. This chain abounds in iron, lead, copper, and quicksilver. 4th, the Transylvanian or Transalpine Alps, or eastern parts of the Venetian territory, whilst of one of them stretches, in a gradually decliving elevation, from the Terglou in the lower Illria, eastwards beyond Carlowitz, where it terminates, opposite the confluenes of the Danube and Thies. With the region below, to which the town of Deja belong, the Carnic or Carnicolum Alps, which run in a south-easterly direction, between the right bank of the Save and the Isonzo, until they throw out two arms above the town of Iridia in the Illria, province, and the Peak of the Lomnitz, is 8132 feet. They are characterized by Alpine glaciers, snow lakes, and deep chasms, chiefly however in the more northerly regions. In the north they stretch out their arms towards the banks of the Rasa and Biaska in western Galicia; and in the south, as the river Vistula, is the Danube, and the Arva and the eastern end, between the Arva and the Upper Waag. The average elevation of this stupendous mass of granite is between 6000 and 6500 feet; but that of the highest summits does not exceed 8000 feet. The highest part of the whole Carpathian system, but are the only mountains of eastern Europe, north of the Alps, which approach the latter in character. They extend for about 200 miles along the northern confines of Hungary, between the Upper Popaed, and the Danube, and extend their breadth from 50 to 60 miles. One of the branches of this chain, the Sib advocate, which forms the central group next the plains, is celebrated for the excellence of its vineyards. 5. The Beskid, the highest point of which is the Babia, situated, about the northern boundary of the Western Gebirge, and encompassing the northern range of the Central Carpathians, spread along the frontiers between Moravia, Austrian-Silesia, Galicia, and Hungary. Towards the north they extend into the Elevations of Tarnowitz and Czasaw, in the region of the Upper Vistula, whilst their southern range subside on the plains of Hungary. Their western extremity, from which the Bocza springs, stands in immediate contact with—6. The Lesser Carpathians, or Jaworins Carpathians, which commence between Hamburg and Pressburg, on the left bank of the Danube, and form the most westerly group of the parent chain. Thence they take a north-easterly course, crossing the district between the Carpathian and the Western Gebirge, and encompassing the northern range of the Central Carpathians, spread along the frontiers between Moravia, Austrian-Silesia, Galicia, and Hungary. Their greatest elevation does not exceed 2000 feet, from which they decline with thickly-wooded slopes as they approach the March and Waag on the western and eastern sides. The summits of the Greater Carpathian chain are generally covered with forests to a height of 3600 and even 4200 feet, above which there is a succession of naked colossal masses of rock, whose surface is unrelieved by any sign of vegetation beyond a scanty growth of grass. The highest points are everywhere composed of granite, and the less elevated, either of primitive limestone or syenite porphyry and sandstone; the former of these is frequently covered by it. Even at their most elevated points the summits are covered with snow, for it is the ice or snow which accumulates in their hollows
capable of resisting the effect of mid-summer heat and vegetation, which is luxuriant, especially in the lower regions; at higher levels, it becomes more denser and as it approaches the higher regions: the woods on the southern side of the chain next Hungary are alternately composed of fir and pines, and beeches; but, on their northern side, next Galicia, they consist principally of fir, which increases in bulk and height towards the neck, but beeches, but not a single oak exists on the Carpathian soil. Neither the vine nor walnut succeed in the central range.

The declivities of the several Carpathian ranges, but more so in the western, which spread into Hungary and Transylvania, contain the sources of several rivers. On the Hungarian and Transylvanian sides, the Theiss, Sazos, Maros, and Aluta; on the northern and eastern sides of the Carpathians, the Bereich, Moldau, Pruth, Hermath, Geisa, and Sacza; on the western and the Beskid ranges, the Vistula, Dunajec, and Dziest.

The last mountain ranges which we have to notice are the Sudetech and other branches of the Herycynian chain. Where the westerly termination of the Beskid group descends with its broad masses into the low country between the Vistula and Oder, an extensive girdle of mountains takes its rise. Elevating themselves at this point from the narrow plain which lies between the Upper Oder and the Oder, on the north of the Prussian Silesia, and from the southern parts of the Upper Oder, and they rise to the right bank of the Elbe, the right bank of which on the side of Saxony forms its north-westerly limit. The Sudetes are the boundary-line between those portions of the Austrian territory and the Saxon and Prussian dominions which lie to the north of the point at which the Oder has and passage through the Ore-mountain group of the Herycynian chain. They are remarkable rather for their length than breadth; in no part are they completely broken by the interposition of plains, and they occasionally rise from their general elevation by a rich variety of hill and mountain scenery. The character of the Sudetes has led to their subdivision into four distinct ranges; of which the first in order, commencing with their vicinity to the Carpathians, is

The Slezian-Moravian mountain range, so far as the surface, mostly covered with the elevated forests on the confines of the two provinces, contains the sources of the Oder and March. Its mass consists of primitive clay-slate, which at times diverges into muscovite. The central summits of the range have a rather elevated position. The Altavert and Spiegelgitter Schneeberg, rise to 4198 and 4380 feet respectively. A number of branches extend in various directions from the main range; the most northerly descends to the banks of the Oppa, a branch of the Elbe, and the other branches reach the March to the north-eastern quarter of Olmutz. The forests in this range descend along its declivities till they skirt a soil which is variously and highly cultivated. The Altavert, which stands on the side of the March, is connected by the Hunderlickei (or Dog's Back), a long narrow chain running north-westwards, with the second

Glazter-Gebirge, a quadrangular mass of mountains, formed by two parallel groups, distant between 14 and 19 miles from each other, and extending about 40 or 45 miles in a direction from south-east to north-west; they are united in the south by the snow-mountains of Glatz, and in the north by those of Schwednitz in Prussian-Silesia. They consist of the eastern part of Glatz on every side. The south-easterly knot, which is the highest point of the Glazter-Snow Mountains, is, in every respect, the remotest and wildest, as well as the most elevated, region of the whole Glazter-Gebirge. The latter throw out four large arms, which of mountain formation, which connect Prussian-Silesia with Bohemia and Moravia, into all which countries they penetrate in a less or greater degree. The main range is composed of limestone. The principal valleys are at a height of 1200 or 1300 feet above the level of the sea; the river which descends covered with forests to a considerable point of elevation. The Grosser Schneeberg (Great Snow Mountain), 4444 feet in height, is the loftiest summit of this range. The Glazter-Gebirge abut in the south on the Moravian Mountains, sometimes called the Alten-Gebirge, which descend in a south-westerly direction by Leanderkon-Juntan, and Iglau to the Dunab, on the left bank of which they form a junction with the Bohemian Forest Mountains, or Oberwald-Gebirge. The most elevated point in this group is the Pfliekenstein, whose height is 4176 feet. Cultivation here rises to a considerable elevation, and the backs of the mountains are thickly wooded. The western branches of the Glazter chain slope to the plains of Bohemia; and its eastern, after spreading over the northern districts of Moravia, disappear in the lowlands in that quarter. A lofty mass, called the Waldenburg Mountains, in the south-western part of the principality of Schlesovina, enters the Bohematian Maria, and forms a range of high ground, with numerous peaks, towards the north of Bohemia, and into the circle of Liegnitz in Prussian Silesia. The sources of the Iser, which lie within it at a height of 3400 feet, in the Bohemian district of Passau, gush from this range. The Riesengebirge consist of two high groups running in a parallel line with the main range, from the banks of the Iser to those of the greater Aupa, in the north-eastern parts of Bohemia; the loftier group of the two has summits of 4000 feet, which throw out branches which run to the banks of both rivers. The mass of the Riesengebirge is granite, which also distinguishes its highest peaks; and its subsidiary formation is gneiss, which is almost wholly confined to the Elbe group of the range. In the Riesengebirge, the winter prevails on these mountains, which, from being the most elevated any chain in the north of Germany, have not been inappropriately denominated the Giant Mountains, and are so renowned for their rigorous climate, that a greater height on their slopes, or in the valleys, than 1200 feet; nor will oaks or potatoes thrive above 2400 feet — sedum, indeed, beyond that of 1700; wood becomes stunted growth when this exceeds 8000, and the regions which rise behind it are naked granite. In spite of every change in the climate, not only are the valleys and slopes of the Riesengebirge, but even their slopes half way to the top, thickly inhabited: their interior is occasionally the site of a broad tract of marshy flats, and their descent, on the Bohemian side, is far more abrupt than on the Prussian. The Rocky Mountains, or Lauzitser Berge, the fourth and last range of the Sudetech branch of the Herycynian chain, which rise from the vale of the Neisse, in Lusatia, and extend to the banks of the Elbe and Oder, we shall simply observe, in this place, that there is an arm which stretches from the southerly declivity into the heart of that part of northern Bohemia which has the Elbe and Iser for its western and eastern boundaries.

May be described generally of the Sudetes, that their higher regions are of various primitive formations, and, in certain directions, rich in different kinds of ores. The mountain ranges of more moderate height are composed of clay-slate, limestone, and argyrodial, in parts contain beds of slate. The mountains of Bohemia and Moravia, are of felsite, trap, and sandstone, or granite, and basalt, with isolated and towering caps. Both sides of the Sudetech chain abound in streams which spring from their bosom. Of these, the most considerable on the northern side are the Oppa, Neisse, and Neisse-Elbe, all of which flow into the Oder; and on the southern side, the Oder, the three sources of which lie about fourteen miles to the north-east of Olmutz; the March, or Morava, which rises on the right bank of the Elbe; and the Werra, which is tributary to the Elbe; and the Elbe itself, which springs from the southern foot of the Schnee Kopp.

Another considerable range of the Herycynian mountains consists of two mountain ranges, which commence from the left bank of the Elbe at that point of the Bohemian frontier where the river forms a passage into Saxony, and run
ning first in a south-westerly line between the two king-
dom. This is in a south-easterly one between Bavaria and
Bohemia: at the left, the Danube and its tributaries are deflected
from their normal course, and the crest of the two ranges is
separated by the Inn. The middle ranges of the two
kingdoms, and the eastern face of the Saxonian Alb, form
the real barrier between the two great basins of the
Danube; the line of the eastern face of the Saxonian Alb,
converging towards the north-east, forms the boundary
between Bavaria and Saxony. The two ranges are
separated by a long rift of the earth, which contains the
valleys of the Elbe and the Danube, and is called the
Czechoslovakian Line or the Great Rift of Europe. The
valleys of the Elbe and the Danube are filled with alluvial
mud, and the course of the rivers is therefore meandering.

The Czavog, which flows into the Danube near Nitra,
forms the boundary between Austria and Hungary.

The most important rivers of Austria are:

1. The Danube, which flows from the Black Sea to the
sea of the Danube, and is navigable for many miles.

2. The Inn, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

3. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

4. The Leitha, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

5. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

6. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

7. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

8. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

9. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

10. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

11. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

12. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

13. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

14. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

15. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

16. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

17. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

18. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

19. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

20. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

21. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

22. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

23. The Tisza, which flows from the Black Forest to the
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24. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

25. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

26. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

27. The Drava, which flows from the Black Forest to the
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28. The Morava, which flows from the Black Forest to the
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30. The Drava, which flows from the Black Forest to the
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31. The Morava, which flows from the Black Forest to the
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37. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

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sea of the Danube, and is navigable for 100 miles.

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sea of the Danube, and is navigable for 100 miles.

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sea of the Danube, and is navigable for 100 miles.

43. The Morava, which flows from the Black Forest to the
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sea of the Danube, and is navigable for 100 miles.

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sea of the Danube, and is navigable for 100 miles.

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sea of the Danube, and is navigable for 100 miles.

48. The Drava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

49. The Morava, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.

50. The Tisza, which flows from the Black Forest to the
sea of the Danube, and is navigable for 100 miles.
The bandicoots (Peromyscus) compose a very remarkable genus which does not admit of a ready comparison with any other group of animals likely to be more familiar to the generality of readers. With a dental system and even an outward form which very much assimilate them to the larger rodents and insectivores they are readily classed, though often confused with true rodents, or true insectivores.

Only one species has been distinctly described, but there are four or five, and probably a greater number of very distinct species found in different parts of the country. Like the larger rodents, these exist almost everywhere; the fore-feet being used as hands to carry food to the mouth and for other similar purposes.

Of the phalangers (Phalangista), so called originally by Buffon, from the union of the two interior toes of the hind feet, are to be found in a great number of our insectivorous quadrupeds; they form burrows, or take refuge during the daytime in natural crevices, or under fallen timber, move about only during the night-time, and are not observed in the daytime. The habits and mode of life generally resemble those of the bandicoot, though not so frequently observed. They are of a smaller size, and agreeably marked with numerous white spots. A certain number of the genera are omnivorous and live for the most part upon birds, reptiles, and other small prey. Only one or two species have been described. The urine dasyur (D. viridis), or native devil, as it is called, is discovered by the colonists, is the ugliest and most disgusting nature quadruped, for it is large in size, rather heavy, has a thick body, thick and heavy, and its head disagreeably large and disproportionate to its legs. It inhabits the coast of Van Diemen's Land, sleeping during the day among the rocks and moving about during the night in quest of dead seals and other marine productions which compose its food. The D. marcoui, D. rivularis, and D. maugeri, are found in Van Diemen's Land as well as on the continent of Australia, and are sometimes called native cats by the colonists. It is not in any case endearing, and is a very peculiar animal which they bear to cats, but from some slight similarity in their habits, as they climb trees readily in pursuit of small birds, and capture their prey more by address than by open fight. The name is given to them by the colonists, a name which is not always applied to the Petaurus scutatus, is about the size of a common rat, of a uniform light ash colour, and has the tail terminated by a pencilled black hair. It resembles the wood mouse in size, but differs from the sugar maple species, from which it has acquired its colonists' name, and appears to live for the most part upon the larger night insects, and probably upon the eggs and young of smaller species. The smallest kind is the D. murinus, or mouse-opossum, about the size of a little larger than the little animal whose name has been transferred to it, and which, like the sugar squirrel, resides upon trees, and lives principally if not entirely upon insects. The genus Thylacinus contains but a single known species, and that apparently confined to Van Diemen's Land. It is as large as a moderate-sized dog, and not unlike the canine species in general form and appearance, except that it is longer in the body and has shorter legs. Its head is of a more moderate size than that of the others, and is of a more regular, and more regularly arranged, and terminating singly upon the sides. Like the generality of marsupial animals, it is nocturnal in its habits, generally keeping concealed in the forests and woodlands during the daytime, prowling about at night in search of prey, and often committing depredations upon the lambs of the colonists of Van Diemen's Land, as the dasyures do in the poultry-yards of New South Wales. For the sake of a single word, I feel inclined to use it, though I feel it is not properly so: it is a cowardly animal, and easily frightened by a courageous dog.

The five species of Rodentia inserted in the tabular distribution of the Australian mammalia, three belonging to the rat genus (Mus), and the remaining two of the same sub-family Hylomys as defined by the most recent writers on mammalogy. The former are but little different from the common species of rats and mice in other parts of the world.
the latter are merely distinguished by their larger size, long
beak and eyes, and the presence of a malagash in the hind feet, which assimilate them
to some measure to the beavers and coypus of America.

They are aquatic in their habits, and are found in most of
the rivers both of Van Diemen's Land and New South
Wales.

The two Edentata, inserted in the table, belong equally if
not more properly to the marsupial order, partaking, indeed,
of the characters of both of these tribes, and forming the
connecting link by which they are united. These animals are
not to be included in the monotremes and anomalous squadrupeds that have ever been discovered. Though they
are certainly quadrupeds in the great majority of their
characters, yet their organs of mastication more nearly
resemble the bills of birds than the corresponding parts of
other animals. The anatomy of these animals is so complex
that it is not unlikely they are true mammals, and nourish their young by a
milk secretion like all other animals of the same class,
yet it is still a matter of keen dispute among naturalists and
physiologists whether they produce their young alive, or
lay eggs and hatch them like birds, or rather perhaps
like reptiles, for the whole detail of their organisation seems
to point them out as intermediate between this class and
ordinary mammals, rather than between mammals and birds.

The most distinctive of the two genera are Ornithorhynchus and Echidna. The former, often called the
duck-billed animal, from the form of its head and face, resides in rivers and ponds, where in fact, like ducks, it
lives principally by searching for seeds and insects among the
vegetation near the banks of the river. For this purpose its bill is
provided with a complicated and delicate tissue of nerves,
which enables it to distinguish its food from the small mud
and gravel with which it is mixed, and it is indented by
small grooves along the sides so as to permit it to strain off
the mud in the clarified water, or to cut the pretty tackle and
snare time. It forms deep burrows along the banks of the rivers,
which are provided with two entrances, one above and the
other below the level of the stream, so as to afford it a
safe retreat from its enemies. If this is not the case, it is
exposed to the attacks of the nectaraneis, or, O. fusus, and O. fuscus; other consider
them both as varieties of the same species, to which they are
gave the name of O. paradoxus. The genus Echidna, though it agrees in its general structure, and in the very
anomalous nature of its production with the ornithorhynchus,
yet differs widely from that animal in its external appearance,
as also in its habits and economy. It is covered with
short soft prickles not unlike those of a porcupine, feeds
upon grubs and tubers, and is a very shy and cautious
animal, rears its young, resides in deep burrows of its own
formation, and hibernates or sleeps during the winter season.

Of this genus there are two species, one without any
abnormality, the other long rag hair intermixed with the
spines, and called respectively from this circumstance, E
spinosa and E. setosa.

The coasts of Australia have been long known as the
occasional resort of immense shoals of whales, dolphins,
and other cetaceans that inhabit the waters of the globe.
Many vessels are now annually fitted out from Sydney and Hobart's Town for this valuable branch of commerce,
and the success which has hitherto attended the speculations has been a most important accession to the
general resources and prosperity of the colonies. The seal
fishery also has been attended with considerable success,
and the sea otter and sea animals form very important
items in the annual colonial exports.

The ornithology of Australia, though far from being so
cumbersome and anomalous as its mammalogy, contains,
nevertheless, many very singular forms and wants many of
those singularities which have hitherto attended the
speculation. Among rapacious birds, eagles, falcons, and various
species of hawks abound everywhere, as well as owls of
different kinds. The common peregrine falcon (Falco peregrinus), and the barn-owl of Europe (Strix flammea) are
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The preceding statement gives a view of the customary subdivision of the territorial surface of the Austrian dominions; but for the purposes of internal administration, they have been subdivided in a somewhat different order, though the number of subdivisions or provinces remains the same. These are —

I. The Archduchy of Austria, composed of —
   1. The province of A. below the Danube, which includes the city of the same name and the counties of Wurzberg, and the Lower and Upper Marchenlberg.
   2. The province of Lower Austria, divided into five circuses, those of the Mosel, Hincus, Hinz, Tunis, and Hainburg.

II. The Duchy of Styria, containing five circuses, viz.:
   1. Bruck, St. Wolfgang, and Hainburg.

III. The Kingdom of Bohemia, divided into:
   1. Prague, with five circuses, Kinober, Vilhyn, Leobersdorff, and Atterberg.
   2. Triest, with three circuses, Triest, Intire, and Oliva.

IV. The Archbishopric of Salzburg, containing five circuses, viz.: Upper and Lower Iselberg, Fischlberg, Einbeck, Tribza, Reover, and Vornberg.

V. The Duchy of Silesia, divided into the three circuses of:
   2. Koenigrieth, Goetze, Biber, and Klusen, besides the

VI. The Margraviate of Moravia and Silesia, containing eight circuses, viz.:
   1. Dison, Bran, Zasv, Igaz, Prana, Hradz, Treymaz, and Trebers.

VII. The Kingdom of Hungary, consisting of four provinces, viz.: Buda, Pest, Vienne, and Transylvania.

VIII. The Kingdom of Bohemia, containing four circuses, viz.:
   1. Prague, with three circuses, Triest, Intire, and Oliva.
   2. Breslau, Braxov, Stett, Liber, and Palmach.
   3. Koenigrieth, Goetze, Biber, and Klusen, besides the

IX. The Principality of Transylvania, containing 1. The Land of the Magyars, with 15 circuses.

X. The Kingdom of Hungary, consisting of:
   1. The Province of Milos, with nine circuses, viz.:
      2. Buda, Pest, Vienne, and Transylvania.
   3. The Province of Transylvania, containing:
      4. The Province of Pest, the other, viz.:

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Soil, climate, and productions. — The Austrian dominions contain, in almost every part, lofty mountains, some forming the natural limits of demand, and others, like the Alps and their branches, in the south and west, penetrating into the heart of the empire, the natural cordon of the empire in this direction. The plains do not occupy more than about a fifth part of the whole surface; the low extensive levels which exist are found next to the northern declivities of the Carpathians, in Galicia, and in the southeastern parts of the empire, Hungary, the Transylvania branch of the Carpathians; they prevail within the Slavonian borders, and form the distinguishing feature of that portion of the Austrian possessions in the north of Italy which lies between the Alps and the Apennines.

The soil is of endless variety, but in general favoured by a mild and genial climate, and distinguished by remarkable productiveness.
its surface. The lowland of which we have spoken occupies about 55,000 square miles; the larger portion, an area of about 21,000 miles, lies between the Danube and the Transylvanian mountains, and is watered by river and the Tisza for a length of upwards of 300 miles, and

unfit for agriculture. The Carpathian plain is watered by most cold, and beds of chalk. These beds are intermingled with layers of granite, gneiss, and quartz, and here and there rise from the surface into low hills; and the Galician soil is no where so productive as in the district of Zloczow, near the Hungarian border. Galicia is of northern temperature, for there are few parts in which the cold influence of the Carpathian atmosphere is not sensibly felt: hence the grape and most other fruits do not generally ripen complectely.

The south-western limits of Galicia adjoin the high mountain regions of Austrian Silesia, a country as poor in grain as is abundant in pastures and timber, and known, in common with Moravia and Bohemia, for its growth of flax and its linen manufactures.

South-west of Moravia, which, compared with the adjacent regions of Hungary or Bohemia, has a far milder climate; it is mountainous in its eastern, northern, and western districts, but low and open towards the centre and south, the rich expanses of which has been styled a land of meadow and wine. In this direction it presents a line of rich and finely-cultivated plains; but the remainder of the province, occupying upwards of one-half of its area, is intersected by arms of the Sudente and Carpathian ranges, between which are many narrow, and many fertile valleys. The greater portion of the province is from 800 to 900 feet above the level of the sea.

West of Moravia lies the great Caudron Plain of Bohemia, bound on every side by the granito-basalt chain of the Bohemian Highlands, and bounded south-east by the Bohemian Beskids (Bohemia) and Ore (Zgebige) moun
tains, which send out their offsets into the interior of the country. The heart of this kingdom presents a surface of gentle undulations, studded in many parts with lofty heights rising from the plains, from which a fine view towards the central and lowest part of Bohemia, the Vally, reigns so bright, in that there is scarcely a river which does not rise within its own boundary, or close upon it. The plains, which occupy its central area, is equally divided from the Beskids by the rivers of the Bohemian Beskids, which enjoy a mild, regular, and healthy temperature; but the climate is raw and variable over the larger part of its surface, which is occupied by the highlands and mountains.

Moravia is rich in animal and vegetable produce; and the arable and other productive lands, although nearly two-thirds of the surface are occupied by woods and forests, extend over four-sevenths of the Bohemian territory.

The Archduchy of Austria consists of two provinces; the lower province is intersected on the confines of Styria by a branch of the Noric Alps, and its centre by one of their smaller arms, the Cetian mountains, whilst the warm and fertile valley of the Danube traverses this and the upper province. This branch of the Danube valley, known as the Lower province, which forms the western part of the archduchy, is a mountain region, the southern portion of which in the lofty peaks, glaciers, and valleys which distinguish the Noric Alps; the northern contains part of the less elevated summits of the Bohemian Forest chain or the Böhm-merwald Gebirge. The lower province is poor as a corn country; but produces much fruit and wine, iron, silver, and coal, and may, in a manufacturing point of view, be considered as the base of Austria. The upper province, which includes the Salzburg territory, and contains, in proportion to its extent, more rivers and lakes than any other district in the empire, has a soil which, in spite of the skill and unwarried industry of its inhabitants, does not yield enough for the support of the population. The chief products of the province, which seems naturally to divide itself into Upper and Lower Styria, is amply provided with rivers and streams, whence its rich pastures, and abundant crops of every kind of grain, of clover, vegetables, fruit, and wines, and its fine races of horses and cattle. Besides this, no country of the
same extent in Europe is more valuable for its stores of salt, iron, steel, and tin, and its works and manufactories.

West of this duchy lies one of the most ancient possessions of the crown of Austria, the earldom of the Tyrol, which, in conjunction with Upper Austria, has been denominated the 'German Switzerland.' The Rhine, which forms the most elevated mountains in the Austrian dominions, which run through this province from the Grison frontier to the Illirian, and meet the Nore on that of Upper Austria, are scarcely less lofty than the Alps of Switzerland. The Ferlach mountains, in the south of the Tyrol, in the first instance, from the sources of the Etsch, or Adige, in a direct north-easterly line to the valley of the Ziller; and the Mittelberg, or mountains of middle elevation, on whose more fertile slopes face the Alps, lock down the broad valley of the Inn, and renders the whole a most fertile and fruitful country.

The Tyrolean highlands are composed of an inferior formation, and the Tyrolean lowlands have derived their appropriate name of 'Thaler,' or tales, of which about twenty-nine are dotted with town or village, and fertilized by the waters of the Inn, Etsch, Brenta, and a number of other streams. The air is generally pure and keen, though, in the south, the effect of the seacoast is partially felt. The chief products are horses and cattle, grain, wine, fruit, potatoes, timber, salt, iron, copper, silver, lead, and a little gold.

The line which touches part of the eastern borders of the Tyrol, and is composed of the duchies of Carnutta and Carniola, the territory of Triest, Austrian Frioul, Istria, a portion of Croatia, and the Quarnsy Islands at the head of the Adriatic, is principally of mountainous character. The head of the Adriatic is bordered by the Norie Alps, which extend to the banks of that river; south of it, and next to the Italian frontier, the Carinthian range separates the territory of the Savo and Isouzo from that of the Austrian Tyrol; and, in contrast with numbers of ranges, the Julian, or Carniolan Alps, run in a south-easterly course towards Dalmatia, until it is bounded by the Adriatic. These ranges are full of lakes (among others, the celebrated Zrkritzer in Carnutta, which wholly loses its wildness during the first days of February, and is the scene of the famous Battle of the Drave) is bordered by the Norie Alps, which extend to the banks of that river; south of it, and next to the Italian frontier, the Carinthian range separates the territory of the Savo and Isouzo from that of the Austrian Tyrol; and, in contrast with numbers of ranges, the Julian, or Carniolan Alps, run in a south-easterly course towards Dalmatia, until it is bounded by the Adriatic. These ranges are full of lakes (among others, the celebrated Zrkritzer in Carnutta, which wholly loses its wildness during the first days of February, and is the scene of the famous Battle of the Drave).

and then running north-east between the Tisza and Mor, de
tives into several arms of considerable elevation, which
subside in the valley of the Danube. Another principal
branch stretches in a southerly direction to the Monte
Pellegrino, close upon the frontier of the Tyrolese and
Venetian territories, and sends forth its arms under the
name of the Maggiolo (a continuation of the Lago di Garda
and the Brenta) and the Euganean and
Benvian hills. In connection with the Rhetian chain are
—2nd, the Vortic Alps, which commence at the Three
Lake valley near Thurn, which continues along the
left bank of the Drave then turn eastward through
Styria, spread into Lower and Upper Austria, and
gradually subside into the plains of Oedenburg in Hungary.
A kilometre range, which the Sommering, between Lower
Austria, and 100 miles, and about 100 miles beyond that
north or northern arm, the Kahlen and Leitha hegatas,
commonly called the Joseph and Leopold’s Berge,
look down upon the plain in which Vienna is situated.
Combined also with the Rhetian, are—3rd, the Carnic or
Carnic-Haus Alp, which commence at the Monte Pellegrino,
in the southernmost Tyrol, run south-eastward through the
Illyrian provinces of Carnia and Carniola, and gradually
subside in the Kistliland, or government of Triest, on the
Austrian sea-coast, and form a considerable barrier to the
traffic from the interior of the empire; enclosing the
Kaatalsch; and many minor branches descend into the
eastern parts of the Venetian territory, whilst one of them
descends, in a gradually declining condition, from the Terglow
in Western Ilyria, eastwards beyond Carlowitz, where it
terminates, in about 50 miles along the coast, and on
adjoining the coast, with the Dinaric Alps, which, from this
point, traverse that part of Austria—Croatia between the Kupa and
and right bank of the Save, and then enter Turkish Croatia; whilst
a branch turns westward, spreads out in short ranges to the
very borders of the Adriatic, and converts a considerable
portion of the narrow elongated surface of Dalmatia into a
mountain-region, of which the Monte Dinar (3669 feet in
height) is considered the highest and the Tsercin, or peak of
the Dinaric Alps, which spreads through the Archduchy of Austria, and,
and south of it in Ilyria, Ilyria, Ilyria, Ilyria, and Dalmatia, as
ranges exceeding 3600 feet, the stupendous elevation of the
chain of the Alps, extending over one-half of their elevation.
The eastern and northern territory of Austria is characterized
by its own independent mountain system. The Carpathians, which commence near Pressburg on the
Danube, near the north-western border of Hungary, are con
ected by their northward alone with the Sudetische branch of the
Hercynian chain; and when they reach the district where the
boundaries of Austrian Silesia, Moravia, and Hungary meet,
attain a great elevation. From this point the principal masses spread in an arch to the east and south
in a southerly course until it reaches the south-eastern ex-
trianity of Transylvania at Mount Mosa Mika, from which
point it turns towards the west, and then deviating a little to
the north-west, crossing in about 100 miles on the left bank of the Danube near Old Orsova,
close upon the frontier of Wallachia. In this course, the
Carpathians form a boundary-line, separating Hungary from
Moravia, Austrian-Silesia, Galicia, and the Buck
owice, and the Carpathian range, the Moravian Maha
chis in the east and south; and the military frontier of
southeastern Hungary from the western confines of Wolf
chis, and the northern of Sava, on the right bank of the
Danube.

We have already noticed the extensive portions of the
surface of Hungary, Galicia, the Buckowice, and Trans-
valls, which the Carpathians cover. The principal group
wises into which they are usually subdivided are:—1. The
Carpathians proper, divided by trap and breccia ranges stretching
first north-eastward through the Austr

have their name, from Ujipalanka, below Weiskirchen
about 70 miles west of Celts, and subdivide gently at
Mount Pietrozza, a little to the north of the
north of the Theiss in the Hungarian circle of Maramoros.
No summits in this group exceed 4000 feet in elevation until they have
reached the territory of Moldavia. They slope gently, on
the west, into the plateau of the Buzac, and descend to
the north of Kamen, and Wardein, and occupy a surface of which the greater
length is about 350 miles, with a breadth varying from 23
and 95 miles. 2. The Waldgebirge or Forest Mountains, the
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or northern or central side of which the Draist springs. On
this north side they descend, covered with forest and swamp,
to the Galician plain, their base being terminated by those
effervescent banks of rock-salt, between 700 and 800 feet deep,
which appear to spread eastward almost to the verge of the
Ural chain in Southern Russia. Their southern slopes
fall into the plains of the Theiss in Hungary, and, where the
line of forest ceases, they are well cultivated, and highly
benefited by the vine. 3. The Carpathian or Tuscar Mountains: these not only constitute
the loftiest mass of the whole Carpathian system, but are the
only mountains of eastern Europe, north of the Alps, which
approach the latter in character. They extend for about 150
miles along the coast, and on the south, as far as the
Upper Pored and Dunajec, which lie at their southern
eastern end, between the Arva and the Upper Waag. The
Julian or Julian Alps, which run in a south-eastward direction
between the right bank of the Save and the Isonzo, until
they throw out two arms above the town of Istrija in the
Illyrian province of Litorina, the eastern and southern
and eastern descending along the left bank of the
and right bank of the Save, and then enter Turkish Croatia; whilst
a branch turns westward, spreads out in short ranges to the
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capable of resisting the scorching midsummer heat; vegetation, which is luxuriant, especially in the neighbourhood of the more central range, becomes languid as it approaches the higher regions; the woods on the southern side of the chain next Hungary are alternately composed of fir, pines, and beeches; but, on their northern side, next Germany, they consist of fir, beech, and spruce; and with pines and fir, and at times with beeches, but not a single oak exists on the Carpathian soil. Neither the vine nor walnut succeed in the central range.

The declivities of the several Carpathian ranges, but particularly those which spread into Hungary and Transylvania, contain the sources of several rivers. On the Hungarian and Transylvanian sides, the Theiss, Saxa, Maros, and Aluta; on the northern and eastern sides of the Carpathians, the Berezh, Hermans, Granta, and Neutra; and in the central and Beskid ranges, the Waas, Vistula, Dunajec, and Dunister.

The last mountain range which we have to notice are the Sudetech and other branches of the Hercynian chain. Where the westerly termination of the Beskid group descends with its broad masses into the low country between the Vistula and Oder, an extensive girdle of mountains takes its rise. Elevating themselves at this point from the narrow plains of Moravia and Bohemia, and bounding a vast part of the Upper Saxonian territory by the great extent of their eastern extremity, and from the plain of the Hana or Upper March, the lofty chain of the Sudetes follows a north-western direction for more than 200 miles through the upper part of Moravia, Austrian-Silesia, and Bohemia. As it descends, it arrives at the Elbe, the right bank of which on the side of Saxony forms its north-western limit. The Sudetes are the boundary-line between those portions of the Austrian territory and the Saxon and Prussian dominions which lie to the east. At a point at which the chain has forced a passage through the Ore-mountain group of the Hercynian chain, they are remarkable rather for their length than breadth; in no part are they completely broken by the interposition of plains, and their elevations vary from 1000 to a height of 4000 feet. The natural character of the Sudetes has led to their subdivision into four distinct ranges; of which the first in order, commencing with their vicinities to the Carpathians, is

The Silesian-Moravian range, whose surface, mostly covered with the elevated forests on the confines of the two provinces, contains the sources of the Oder and March. Its mass consists of primitive clay-slate, which at times diverges into mica-slate. The central summits of the range have an altitude of 4000 feet, of which the Altivar and Spiegelteich Schneeberg, rise to 4288 and 4380 feet respectively. A number of branches extend in various directions from the main group; the most northerly descends to the bank of the Oder, the Elbe, and the March, and the more southerly runs parallel with the left bank of the March to the neighbourhood of Olmitz. The forests in this range descend along its declivities till they skirt a soil which is variously and highly cultivated. The Altivar, which stands in the north-Alten-clay, where more than in all by the Hunderich (or Dog's Back), a long narrow channel running north-westwards, with the second or

Glater-Gebirge, a quadrangular mass of mountains, formed by two parallel groups, distant between 14 and 19 miles from each other, and extending about 40 or 43 miles in a direction from south-east to north-west; they are united in the south by the snow-mountains of Glater-Gebirge, and in the north by those of Schwednitz in Prussian-Silesia. The snow-mountains of Glater-Gebirge rise on every side. The south-easterly knot, which bears the name of Glater Snow Mountains, is, in every respect, the rarest and wildest, as well as the most elevated, region of the whole Glater-Gebirge. The latter throw out four large arms, chiefly of sandstone and sandstone-abound, which extend from the north to south, and are bounded on the north side by the Oppa, Neisse, Bober, and Neisse in Lusatia, all of which flow into the Oder; and on the southern side, the Oder, the three sources of which lie about fourteen miles to the north-east of Olmitz; the March, or Morava, which flows into the Danube; and the Elbe, which, after passing through the Black Forest, and the Elbe itself, which springs from the southern foot of the Schnee Koppe.

Another considerable range of the Hercynian chain consists of two mountain-ranges, which commence from the left bank of the Elbe near the town of Lusatia, where the river forces a passage into Saxon, and runs

to the Danube, on the left bank of which they form a junction with the Bohemian Forest Mountains, or Böhmerwald-Gebirge. The most elevated point in this group is the Pfückenstein, whose height is 4176 feet. Cultivation here rises to a considerable elevation, and the backs of the mountains on the left side are, the most celebrated of all. Glater-Gebirge throws itself down into the plains of Bohemia; and its eastern, after spreading over the northern districts of Moravia, disappear in the lowlands in that quarter. A lofty mass, called the Waldenburg Mountains, in the south-western part of the principality, successively divides the Glater-Gebirge with the third range of the Sudetes.

The Riesengebirge, or Giant Mountains, which mark the north-eastern boundary of Bohemia, rise rapidly from the low region in the south west of Prussian Silesia, where they make their appearance in the vicinity of the Schnee Koppe; they ascend north-westwards until they attain an elevation of 5038 feet at the Giant, or Snow-Cap (Schnee-Koppe), which lies nearly in the centre of the group, and then descend into the vale of the Neisse close upon the environs of Zittau, in Saxon Lusatia. The latter half of this range, its wildest and most inclement region, is more commonly known under the appellation of the Iserkamm, or Iser Mountains, and stretches in four parallel masses, with numerous well-defined and abrupt peaks, the breadth of about fourteen, from the vale of the Neisse into the north of Bohemia, and into the circle of Liegnitz in Prussian Silesia. The sources of the Iser, which lies within it at a height of 3400 feet, in the Bohemian district of Lusatia, give rise to that same river, which, after its union with tributaries from the Riesengebirge, consists of two high groups, running in a parallel line with the main range, from the banks of the Iser to those of the greater Aupa, in the north-eastern parts of Bohemia; the loftier group of the two has summits which rise to 4000 feet, and which throw out branches which run to the banks of both rivers.

The mass of the Riesengebirge is granite, which also distinguishes its highest peaks; and its subsidiary formation is limestones, which are generally found in the Prussian-Silesia, and mica-slate. Nearly nine months of winter prevail on these mountains, which, from being the most elevated of any chain in the north of Germany, have not been inappropriately denominated the Giant Mountains. The rawness of their climate prevents eye from opening at a greater height on their slopes, or in the valleys, than 1200 feet; nor will oats or potatoes thrive above 2400 feet—seldom, indeed, beyond that of 1700; wood becomes of stunted growth when this exceeds 8000, and the regions which rise behind them in its absence are nothing but confused heaths. The sub-tropical climate and climate of the Elbe valley, on the north side, is far more abrupt than on the Silesian. Of the Lusatian Mountains, or Lausitzer Berge, the fourth and last range of the Sudetech branch of the Hercynian chain, which rise from the vale of the Neisse, in Lusatia, and extend on the banks of the Elbe, at whose termination is located in this place, that there is an arm which stretches from an southerly declivity into the heart of that part of northern Bohemia which has the Elbe and Iser for its western and eastern boundaries.

It may be marked generally of the Sudetech, that their higher ranges are of various primitive formations, and, in certain directions, rich in different kinds of ores. The mountain ranges of more moderate height are composed of clay-slate, lime-slate, and amygdaloid, and in parts contain coal and iron. The influences of the forest climate and soil, which are a mixture of clay-slate and Bohemia, are of flint-flap and sandstone, and gneiss, and basalt, with isolated and towering caps. Both sides of the Sudetech chain abound in streams which spring from their bounds. On the west side, the most considerable on the north side are, the Oppa, Neisse, Bober, and Neisse in Lusatia, all of which flow into the Oder; and on the southern side, the Oder, the three sources of which lie about fourteen miles to the north-east of Olmitz; the March, or Morava, which form a junction with the Danube; and the Elbe, which the Elbe itself, which springs from the southern foot of the Schnee Koppe.
first in a south-westerly line between the two king-

doms, and then in a south-easterly one between Bavaria
and Bohemia, terminate at Linz upon the Danube. The
former, denominated the Ore Mountains of Saxony and
Bohemia (Sächsisch-Böhmische Erzgebirge), extend from
the left banks of the Elbe to the Moravian plateau of
Bohemia which the Eger drains after crossing the north-western
quarter of Bavaria; from this point also the group called the
Bohemian Middle Mountains (Mittel Gebirge), an isolated
range of basalt and porphyry formation, at no point rising
higher than 3000 feet above the sea, with a number of little
summits and finely wooded slopes, across the north-western
districts of Bohemia to the vicinity of Leosvitz, is nearly a parallel
line with the Erzgebirge. The Ore Mountains, whose
narrow right side spreads into Saxony, and descends, in terraces
like declivities, to the Elbe. They extend along the whole
of their south-westerly course, with abrupt descent, to the
valleys of the Erger and Biela, which contain Carlsbad
and other celebrated mineral springs. The whole range,
with few exceptions, particularly the rocky masses of sand-
stone next the banks of the Elbe, is of granite and gneiss;
its conical summits are well wooded, and it abounds in
minerals. Its slopes are inhabited, and cultivated to a
considerable height. Its length, on either side of the
Böhmen-Karlsbader and the Saxonian and Bohemian
Mountains, is at ninety-five miles, whilst its breadth, in this
direction, varies from twenty-eight to thirty-two.

The second and south-easterly line of the Hercynian
chain commences in the elevated plain on the right bank of
the Elbe; it runs between Böhmen and Saxony until it reaches the
mountains on the side of the Moldau, and thence, pro-
duced to the southern extremity of the Bohemian Mittel
Gebirge. Under the denomination of the Bohemian Forest
Mountains (Böhmische Waldgebirge), termed by the
natives the Erzgebirge, it runs between Bohemia and Bavar
ia until it reaches the line of the Moldau; it is 119 miles
long, and is bounded from the north-western extremity of the arch-
duchy of Austria, at the base of the Drey-Sessel Mountai
; from this point it divides into an easterly chain, running
between the Moldau and the Moldau basin of the Moldau
from the Archebachtal ; and also into a southerly chain, which
terminates on the left bank of the Danube at Linz. Its
branches descend into the centre of the south-western
parts of Bohemia; one of them, in particular, which ad-
joins Austria, is the line of the higher part of the
Buzan and the Moldau. The principal chain of the
Böhmische Waldgebirge is between 116 and 120 miles in
length, and its average breadth about 20; its general features
are those of a wild, gloomy, thick-wooded, and precipitous
mass of mountains, which are separated from the
narrower elevations on the side of Bohemia, in the districts of
Klattau, Prachin, and Budweis, the Dreyseessel Mountain, which
is 3795 feet, and the Kuban, which is 4218 feet high. It is
very rich in minerals; and that portion of it which
lies within the archduchy of Austria possesses its own
name for that of the Karlsberge, or Saarergebirge. The
principal rivers which spring from the Böhmische Waldgebirge are
the Naab, Regen, Beroun, Vottova or Ottova, and Moldau.
The last of this list, or the River, is 130 miles in length and
height, and in that other range of the Hercynian chain by which Moravia
is separated from Bohemia, whence it has derived the name of the
Moravian Mountains (Mährische Gebirge). At their south-western extremity, they unite with the offsets of the
Böhmen-Karlsbader Gebirge, in the neighbourhood of Linz, spread
northwards, and direct their course northwards, forming the line of frontier between Bohemia and
Moravia, until they form a junction with the Glattzer Gebirge
of the Sascha chain, as already described, Baden and Carinthia.—The only sea-coast
of which this great empire possesses is on the Adriatic, the
waters of which, as far as the Austrian dominions are con-
cerned, extend from the Punto di Goro along the eastern
shore of the Adriatic, in the neighbourhood of Triest, and
the frontiers of the governments of Istria in Italy to the
litigations of Hungary and Austrian Croatia, and the western limits of
Dalmatia to their most southerly extremity. In describing
this line, the Adriatic not only makes four considerable
bays to be mentioned at both of which is a large lake—
Kroatien or Quarnero, and the Bay of Cattaro—but forms
several narrow straits called canals, between the islands
and mainland in its north-eastern parts; such as the
Moro-

drian canal on the coast of Dalmatia, the canals of Pag, 
Zara, di Monte, Solta, Brač, Cres, and Hvar, and

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extent, cut off from communication with the bulk of the
Austrian dominions by intervening mountains, over which the
roads are difficult, the benefits of the Adriatic canals to
Austrian navigation are almost entirely confined to the
provinces immediately adjacent to it.

The Austrian territory, with regard to lakes and inland
water, will best be comprehended in Europe in general, in
particular in its southern and eastern provinces. The
Platten See, or, as the natives call it, Lake Balaton (from a
Slavonian word implying dirt or mud), is in the south-west
province of Hungary, lies about 60 miles south of Komorn on the
Danube. It is 15 miles in circumference, including the
swampy borders; and it receives the Szale, and upwards of forty streams and rivulets. About 70
miles to the north-west of the Platten Se lies the Neusiedler See, or the Neusiedlersee, an
unavowable lake, which contains 120 square miles of surface, and is at least 60 miles in circumference.
The inclusions of salt, soda, and vitriol, which are found along its sides, render its
water unfit for use. There is a small lake among
the Carpathians, the Grüner See, or Green Lake, on the
Tatra mountains, in the northern circle of Lipstau, in Hungary, the water of which has a green appearance, but proves to be
pure and transparent when drawn out. There is an abun-
dance of small fishes and swarms, scattered, as we have before
observed, over the Hungarian soil. Remarkable
of these are the Palatih and White lakes, which are
impregnated with natrium, and situated between There-
sonapol and the right bank of the Theiss. The adjacent
regions are a series of extensive plateaux, intersected by
a number of valleys, and inhabited by a people who
live by fishing and hunting. These lakes are

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and southern extremity borders on Piedmont, and nearly the whole of its eastern banks on the government of Milan as long as the Ticino, and has had in communication with the capital of Lombardy by the Ticino, or Tessino, which flows through it, and the Ticino or Naviglio canal. It is above forty-five miles in length, and from four and a half to seven miles in breadth. The outlet of the lake, the Ticino or Naviglio, is connected with the former by the Trebbia; the larger portion of this lake is in the canton of Tessino; it is nearly twenty-five miles long, has an average breadth of about five, and on the Lombardy side upwards of forty. The region of the Alps and lakes is of importance in this quarter is situated wholly within the Austrian territory: they are the Lago di Como, which lies a little to the east of the latter, in the north-western part of Lombardy. Its length is about thirty-three miles, and breadth varying from about five to fourteen miles; it is deep enough to be navigated by large vessels, is traversed by the Mincio, and receives the waters of the Barca and several minor streams.

Some distance east lies the lake Iseo, which lies north-west of Brescia, and is traversed in its whole length of nineteen miles by the Oglio; Idro, to the east of the Iseo, seven miles long, through which the Chiese flows; and d Allegh, in the same length, in the designation of Vicenza, may be added.

The adjoining exordium of the Tyrol and Vorarlberg has numerous lakes, but they are of limited size; the largest, called the Achensee, in the circle of the Vale of the Lower Inn, is divided into four miles long, and breadth varying from about five to fourteen miles; it is deep enough to be navigated by large vessels, is traversed by the Mincio, and receives the waters of the Barca and several minor streams.

In closing this summary of the principal inland seas which lie scattered over the Austrian dominions, we must not omit the multitude of sheets of water to which the Boemipan, Galicians, and Moravians, give the name of seen, or lakes, though neither from their extent nor any other characteristics is this an appropriate term. Both are, especially, seen, or lakes, in the provinces of Alland and Raanmounthe, in the respective circles of Klauau, Budweis, and Saitz, possess so great an abundance of these sheets of water, or teiche, that they were estimated, forty years ago, at 927 feet, and the extent of its surface is set down by the former as 972 feet at Passau, 690 at Linz, 486 at Vienna, 312 at Pressburg, 258 at Raab, and 216 at Pests. The average width of the Danube, in its course through Austria, is stated by Lichtenspern to be 600 feet, and its waterage to vary from 4 feet at Vienna and Ofen in Hungary is 77 feet; and according to Heinrichs, between Ingolstadt (which lies about 90 miles nearly due west of Passau and Pests) it is 813 Parissian feet. The great breadth of its surface is set down by the former as 972 feet at Passau, 690 at Linz, 486 at Vienna, 312 at Pressburg, 258 at Raab, and 216 at Pests. The average width of the Danube, in its course through Austria, is stated by Lichtenspern to be 600 feet, and its waterage to vary from 4 feet at Vienna and Ofen in Hungary is 77 feet; and according to Heinrichs, between Ingolstadt (which lies about 90 miles nearly due west of Passau and Pests) it is 813 Parissian feet. The great breadth of its surface is set down by the former as 972 feet at Passau, 690 at Linz, 486 at Vienna, 312 at Pressburg, 258 at Raab, and 216 at Pests. The average width of the Danube, in its course through Austria, is stated by Lichtenspern to be 600 feet, and its waterage to vary from 4 feet at Vienna and Ofen in Hungary is 77 feet; and according to Heinrichs, between Ingolstadt (which lies about 90 miles nearly due west of Passau and Pests) it is 813 Parissian feet. The great breadth of its surface is set down by the former as 972 feet at Passau, 690 at Linz, 486 at Vienna, 312 at Pressburg, 258 at Raab, and 216 at Pests. The average width of the Danube, in its course through Austria, is stated by Lichtenspern to be 600 feet, and its waterage to vary from 4 feet at Vienna and Ofen in Hungary is 77 feet; and according to Heinrichs, between Ingolstadt (which lies about 90 miles nearly due west of Passau and Pests) it is 813 Parissian feet. The great breadth of its surface is set down by the former as 972 feet at Passau, 690 at Linz, 486 at Vienna, 312 at Pressburg, 258 at Raab, and 216 at Pests.
to Littau, in Moravia, between gradually lowering banks; thence it runs through lowlands, where woodland and marsh are inextricably mingled; it joins the Mohel, and leaves Moravia above Hohenau in the northern extremity of the Archduchy of Austria, separates that province from Hungary during the remainder of its course, and meets the Danube at Tisza, a little to the west of Freising. The Tisza is of length about 170 miles through Zungaria, of the Moravian mountains; after it has been joined by the Schwaerts, which crosses Moravia through Brunn from the Bohemian frontier, it is the principal stream which flows into the west of Hungary, takes a south-easterly direction to Stuhlweissenburg, from which town the Sarvis Canal renders it navigable; it joins the Danube on the right bank at Buda, to the north-east of Fünfkirchen.

12. The Theiss, or Ticza, which is the most considerable of the streams tributary to the Danube, and is said to have a greater abundance of fish than any other river in Europe, issues from three springs on Mount Beszten, Bearn, and Pietros, in the most north-easterly part of the Transylvanian range of the Carpathian chain. From two of these springs flow the Black and White Theiss, which unite at its mouth, where the river follows a very tortuous course, chiefly, however, in a westerly direction to Gerersburg and Tokay, and then descends, with numberless windings, and bordered in general by marsh-lands, through the extensive plains of central and southern Hungary, keeping close along the left bank of the Danube until it crosses the Military-Frontier province, and joins the Danube about twenty miles to the south-east of Peterварden. The whole length of the Theiss is estimated by Malchus and others at 740 miles. It has numerous large tributaries: the Bodrog is composed of several mountain streams from the Carpathians, and joins the Theiss at Tokay; the Hermath springs from the Kravola-Hola, in northern Hungary, becomes navigable at Kaschau, and after it has received the Sajo (or Sajaf) and the river Koros, in the course of upwards of 150 miles below Onud, about 28 miles to the south-west of Tokay; the Szagy, in conjunction with the Tarna, comes down from the Matra mountains in the circle of Heves, and forming one stream meets the Theiss near Bratzknez. The Szagy, at the southern extremity of Transylvania, and receives the lesser Szamos at Dees, in Northern Transylvania, after the latter has descended from the western mountains of that principality past Klausenburg; from Dees the Szamos flows in a north-westerly course into the middle parts of Hungary, and thence continues its course, which is above 300 miles in length, until it reaches the Theiss at Oltau, about 60 miles due east of Tokay. The Koros or Korossa is composed of several streams, particularly the rapid, white, and black Korosz, which issuing from the Ore mountains in Western Transylvania, and flowing westwards through the plains of Debrecin and Gross-Varadin, unite in one channel a little below Békés, the capital of the circle of Bekesh in Eastern Hungary; the united stream joins the Theiss opposite to Csongrad. The whole length of the Korosz united stream has been computed at 320 miles. The Maroč or Márco rises on Mount Deethég, south-east of Sz Miklos, near the eastern borders of Transylvania, and flowing northwards, passes the town of Várad and Sziget and falls into the Theiss near Neusiedl, and completes its course of 270 miles by traversing extensive plains until it empties itself into the Danube at Komorn. North of that fortress the Waag receives the Neutra, which flows 110 miles from its source in the Ore mountains between Trebcsan and Neusiedl.

8. The Haus, formed of the White Waag, which issues from the mountain streams of Liptau in Hungary, and of the Black Waag, which springs from the celebrated Mount Kravola-Hola, flows from its junction, east of Sz Miklos, changes from a south-westerly to a south-easterly direction at Neusiedl, and completes its course of 270 miles by traversing extensive plains until it empties itself into the Danube somewhat below Gran; it has its source in the Thracian mountains north-east of Sagh.

9. The Gacs, whose source lies in the Rimas mountains, on the upper plateaux of the Hungarian Ore mountains, skirts the southerly feet of the Liptau range until it reaches Neuscholl, from which it winds to the south and traverses a long, green, level plain to its junction with the Danube at Parndorf, opposite the south-eastern corner of the Grand Duchy of Styria to be 161 miles. The Eppel, or Ipoli, likewise falls into the Danube southwest of Gran; it has its source in the Ohrinsky mountains north-east of Sagh.

10. The Aujta (Ait, or Olj) rises in Mount Locavras, at no great distance from the source of the Marosh, in eastern Transylvania, begins a course of 350 miles by running south to Illyeslara, then flows northward to Hopersc, and thence south-westward in the direction of Hermansstadt, on the Intra-Muntan line of the Austrian province of Hungary, makes a westward bend into the western plains of Hungary, where it is navigable, and then flows, between swampy banks, north-westwards to Raab, near which it falls into the Danube. Its length is about 175 miles, and its average breadth 55 paces.
Rhobenthum, the Gabba, on which Hermanstadt is built. [See Austria.]

15. The Psvka, whose source lies in the Osorina mountains of the Carpathian chain, within the limits of the circle of Marmares in Hungary, flows in a deep valley through southern Galicia past Koloma to Tabornovits, and traverses the Galician frontier, from which it forms the boundary between Russia and Moldavia, until it turns to the south-east and falls into the Dniepeb near Reni, below Galatish.

16. The Sereth, which rises from the northerly branch of the Galician mountain, north-west of the town of that name in the Buckowine, only so far appertains to the Austrian dominions, that it winds round the northerly part of this province, and quits it just above the town of Sereth to pass into Moldavia, through which it flows until it reaches the Dniepeb at Podi, below the westward of Galatish.

The Desnietz does not rise within the Austrian borders. This impetuous river has its source in Lake Mischtscheritz, on the north-eastern side of the Carpathian Forest mountains, and in the circle of Sambor in Galicia. It then runs in a south-eastern direction along the western borders of the Galician plains, winding more to the east as it approaches Zaleszcyz, below which, and until it draws near to Choczew, it forms the boundary-line between Galicia and Poland. The Desnietz traverses on the former kingdom for a length of about 190 miles, but is difficult of navigation from the rocks and shallows with which it abounds. The Desnietz has various subsidiary streams in Galicia.

A large number of the northern dominions of Austria are likewise connected with the Baltic through the Vistula and Oder. The former of these rivers originates in the confluence of the White, Black, and Lesser Vistulas; three rivulets which descend from the eastern parts of the mountain range, in the south-eastern part of the duchy of Teschen in Austrian Silesia, and unite at Vistula, a village at the foot of Mount Tannau. After flowing to the northern boundary of that city, it turns westward, and separates Austrian from Russian territory, until, in the vicinity of Cracow, it quits the Austrian border, below Zabotice, having previously passed between Cracow and Padogorze. So early in its course does the Vistula assume a majestic character, that even Skotshau it attains a breadth of 1700 feet and upwards, which increases to a still greater breadth before it leaves the duchy of Teschen, and from that time it becomes the Vistula. The length of its course through Galicia, and along its frontier, is about 195 miles. Its numerous tributaries form the most important streams in the kingdom of Galicia.

The Oder is not connected with any other portion of the Austrian territory but the northern margraviate of Moravia and Silesia. Its sources lie near the village of Haalisch, about fourteen miles east of Olmitz; from this spot it runs in an easterly direction between wooded meadows to Oderitz in Silesia; hence it soon turns to the north, and meets the Prussian frontier north of Ostrau, where, after receiving the Oppa, which flows along the Austrian-Silesian border west of that town, it continues that line of border until the Elsa (or Oder) has descended from it to the southern extremity of the duchy of Teschen, the capital of which is situated on its banks. It now passes at once into Prussian Silesia, after a course in the Austrian dominions of about fifty miles.

A part of this empire is likewise comprehended within the limits of the river system of the North Sea, by the Elbe, which commences its upper course from the junction of a multitude of brooks, all issuing from the western foot of the Snow cap on the north-eastern frontier of Bohemia, in a valley enclosed by the defiles of the mountains, at an elevation of 4151 feet above the sea. It leaves the mountains at Hohenseeb, descends southerly to Königsgratz in eastern Bohemia, then winds round by the south, and flows westward till it reaches Branderts, twenty miles north-east of Spandower, from thence into the duchy of Teschen, through the northern region of Bohemia to Leitmeritz, and thence to the village of Herrnkreischat, where it crosses into Saxony through the opening of a deep romantic vale, after flowing for a distance of about 160 miles through the Bohemian territory. It has been ascertained that the surface of the Elbe, which has an elevation of 619 feet at Königgrätz, declines to 425 feet at Meining, about fifteen miles north-west of Branderts, and to 320 feet at Schandau, in the Saxon circle of Meissen. This river does not become navigable until it has received an accession of waters from the Moldau, the most considerable of its collateral branches in Bohemia. The Moldau issues from the Black Mountain, one of the Bohemian forest range in the south-east of Bohemia, becomes navigable at Budweis, flows through the heart of Bohemia to Prague, and, after a course of more than 400 miles, falls into the Elbe a short distance to the south of Meining.

The Rhine, another great branch of the river system of the North Sea, forms part of the western boundary between the French and Switzerland, and falls into Lake Constance at Bregenz, after it has, in the former, received the Ill, which flows into the Rhine at Feldkirchen.

In the river system of the Mediterranean are comprehended the streams which discharge themselves into the Adriatic. The Po is the only large river whose outlet is in the Austrian dominions. It first touches Lombardy between Casale and Pavia, where it receives the Ticino, and, bearing its slow and turbid current eastwards, with a slight inclination to the south, for about 190 miles, it traverses the provinces of Venetian and Modena and Parma and the States of the Church, until it falls into the Adriatic; the only exception to this remark is the territory of Mantua, which lies upon its right bank between Luzaia and Biella, and renders the Po a purely Venetian river for a distance of about 60 miles, where it forms the frontier between the Papal and Venetian territories. Its surface throughout nearly the whole of this course is at a greater elevation than the land through which it flows. It is in a state of fresh embankments which wall in its waters; they are insufficient to prevent the overflow of its Alpine tributaries, from bursting over them in the spring and autumn, and creating those numerous swamps and marshes which line it at various points, and extend nearly a mile in breadth. It breaks through the Adriatic outlets: neither is it falls, which does not exceed twelve inches in each mile, calculated to mitigate its devastations. The largest of its subsidiary streams bounding Lombardy, and have their influx on its northern banks. The Po and the Ticino enter the Lago Maggiore at Sesto Calende, marks the westerly line of frontier next to Piedmont for about seventy miles, throughout which it is navigable, and falls into the Po with a somewhat rapid descent. It is not far from the Po that the sources of the Olona, which rises among the Alps near Vedano, in the Austrian territory, between lakes Lugano and Varese, flows through Como and Milan in a south-eastern direction, and discharges itself below Corto Olona, about two miles north of the town of Placentia, it bounds the eastern extremity of the Lago di Como, directs its course past Monza, east of Milan, and meets the Po at Coklo Est, below Placentia; it communicates be-nal from Cassano with the Adige, and by river from Milan with the Olona: the Adda, a considerable river, abounding with fish which, after entering the Lago di Como from the Valalwine, quite it as a navigable stream at its eastern extremity to the south-east of Cassano and Lodl, into the Po below Putzhettem, to the west of Como; its waters are increased by the Serio and some minor rivers: the Oglio, whose source lies in the upper opening of the Val Camonica, in the most northerly district of Lombardy, flows southwest to Iseo, and then, in a south-eastern direction, receiving the Melia and Chiese in its course, and passing through Calco, Pontevico, and Ossiano, it falls into the Po below Gassanardo and the Monz or Mens, which runs under the name of the Serio from the large Lago at Lovere, and the Mincio, Riva and Arco, issues from it at Peschiera, where it assumes the name of the More; directs its course southwards to Mantua, expanding into the lake, at the eastern end of which that fortress stands, and discharges itself into the Po near Verona, in the full breadth of its course.

The Adige (or Etsch) is next in importance to the Po in the Italian possessions of the house of Austria. The whole length of the Adige is estimated at about 220 miles. The Passer, Alpe, and Adigevo also fall into this river.
The other streams in this quarter of the Austrian dominions which flow into the Adriatic, such as the Brenna, Pave, &c. will be noticed in their proper places.

The Canals which exist in the Austrian dominions are of limited extent, and merely local in their advantages; for their object in general is merely to facilitate the communications between one part of the district and another. Their whole number is not more than five-and-thirty; and their entire length does not exceed 600 miles (107 German miles) at the utmost. The largest of them, the Bega, or Temes Canal, was the work of the Romans, and is an artificial channel, into which the Bega has been conducted from its old and winding bed; it runs nearly in a straight line of seventy-four miles, from Faksat to Becakerek, through Temeswar, in the south-eastern part of Hungary, and the river Siret. Another important canal in the same kingdom is the Emperor Francis's Canal, which unites the Danube and Theiss, and, by saving a circuit of about 220 miles, reduces the communication between these two rivers in the south of Hungary from two or three weeks to two or three days; it opens below Belzina, and joins the Theiss below Belnà, about twenty-four miles north-east of Ploestiarden; its length is sixty-seven miles; its breadth is sixty feet, with a depth varying from four to six feet, and it is provided with five sluices. The Naress, Alburnis, Argosy, and Sora Canals, likewise in Hungary, are of little further use than to drain off the waters in the lowlands. The Yaraiça in Slavonia is the remains of an old Roman canal, which it is intended to superpose; and the Schwartenzenburg in Bohemia is only fit for floating down timber, &c.

There is a canal also between Vienna and Neustadt, called the Neustädter, which is thirty-seven miles in length, and which is in contemplation to carry through Versain to the right bank of the river. The other principal canals in the Austrian territories may be in canals, the provinces of Lombardy and Venice abound in them: the Naviglio Grande, about thirty-seven miles long, issues from the Naviglio through Abissinian to Milan, with its branches, the Bereggano and Pavia and the Arno, are the principal. Of these the six miles, commencing at Milan, and terminating on the right bank of the Adda, unites with capital with others; the Commum is the Adda above the Adda; below the Po is near about two by two or three miles, and terminating on the right-hand side, it unites with capital with others; the Adda is about twelve miles, and unites with the Oglio; the Lombardy and Venice are likewise full of canals, which answer the useful purposes both of irrigating the circumjacent lowlands and draining the marshes.

Cultivation of the Soil and its Products.—The variety of soils within the Austrian empire is perhaps not equalled by any other state in Europe. But there are few portions of soil in which the liberty of nature has hitherto been adequately succeeded by human skill and industry. This deficiency has, in one branch of cultivation at least, been caddied as a disadvantage, as well as felt; both government and people have considered these lands to be mere waste land, and before the state of agriculture can be raised to a level with the advance which it has made among most of the inhabitants of western Europe. Their first attention has therefore been directed to the improvement of those districts, and the foundation of the Austrian universities. It is not our business, however, to speculate on the probable effect of these measures, but to speak of the extent to which cultivation has been carried in the Austrian dominions. With this view, we shall avail ourselves of Lichtenstein's statements, of which the general accuracy has been universally admitted. It appears, then, that the cultivable portion of the 85,526 square miles, which constitute the area of those dominions, may be estimated at 293,400, of which 288,573 are occupied by about 81 parts in every 100 of the entire area, or 87 parts in every 100 of the cultivable portion, have been rendered available. This extent of available surface may be thus distributed:—

<table>
<thead>
<tr>
<th>Type</th>
<th>Square Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable land</td>
<td>288,573</td>
</tr>
<tr>
<td>Gardens</td>
<td>3,047</td>
</tr>
<tr>
<td>Vineyards</td>
<td>4,090</td>
</tr>
<tr>
<td>Meadow land</td>
<td>18,390</td>
</tr>
<tr>
<td>Grazing land</td>
<td>18,530</td>
</tr>
<tr>
<td>Forests and woodlands, &amp;c.</td>
<td>73,229</td>
</tr>
</tbody>
</table>

From this estimate it would seem that the quantity of surface, either unproductive or not yet turned to any account, does not much exceed 18 parts out of every 100 of the whole area. This extent of 18 parts in every 100 of what is estimated as the cultivable portion of it.

When describing hereafter each subdivision of the Austrian territories, we shall have occasion to notice the respective proportions of cultivated or otherwise productive soil which appertain to it; in the mean while we may generally observe, that the proportion of that soil with reference to the surface of each subdivision may be stated, for

<table>
<thead>
<tr>
<th>Rank</th>
<th>Total Area</th>
<th>Cultivated Area</th>
<th>Cultivated Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30,000</td>
<td>6,000</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>20,000</td>
<td>4,000</td>
<td>20%</td>
</tr>
<tr>
<td>3</td>
<td>10,000</td>
<td>2,000</td>
<td>20%</td>
</tr>
<tr>
<td>4</td>
<td>5,000</td>
<td>1,000</td>
<td>20%</td>
</tr>
<tr>
<td>5</td>
<td>2,500</td>
<td>500</td>
<td>20%</td>
</tr>
</tbody>
</table>

This glance at the actually producing extent of the Austrian soil naturally leads to a consideration of the species and quantities of products which are derived from it, whether vegetable, animal, or mineral; and here the first object of our attention is to state, and of inquiry to an intelligent observer, is the proportion which the cultivation of grain bears to the number of human beings, whose existence depends upon an adequate provision of this first necessity of life. Unfortunately, at the time of such an inquiry, we are called upon to contend against the want of special and authentic data; a want which will more or less embarrass us in every stage of our subsequent attempts to ascertain the actual quantities of any other article which Austria produces. This circumstance has given rise to the most discrepant estimates of the annual growth of grain in the Austrian dominions: Lichtenstein, for instance, assuming it to be but 38,134,000 quarters, Blumenbach upwards of 43,840,000. Stein 45,620,000, Hassel 76,300,000, and some more recent writers as high as 93,800,000, and upwards. Of those, however, who have given their attention to the subject, Malchus appears to us to have handled it with the greatest degree of discrimination; and it is his opinion, that, looking at the present state of husbandry and the uniform system of cultivation which is prevalent throughout the empire, with very trifling exceptions, it is safe to estimate the gross quantity of grain produced at 82,070,000 quarters, from which 7,820,000 being reserved and deducted for seed corn, there will remain a surplus of 64,250,000 for consumption or export. He likewise computes the gross produce to be composed of 38,080,000 quarters of wheat and rye, and 43,990,000 of barley and oats; and calculating the average yearly consumption of the people for the individual to be about one-quarter, he considers the whole domestic consumption of bread corn to amount to 33,280,000 quarters, leaving a residue of 40,800,000 applicable to other purposes. The largest quantities of these four sorts of grain are raised in Hungary, Galicia, Bohemia, and Moravia;
and Venice (where every available acre is judiciously cultivated); but these are parts, each, of the three great spheres of Hungary, Upper and Lower Carniola, Transylvania, the Tyrol, Silesia, and a few others, constituting about one-fourth of the whole territory of Austria, which do not grow sufficient for their own consumption. This remark attains also equally to the province of the Lower Enns in the archduchy of Austria, where, however, the subsistence of the metropolitan population alone creates the necessity of a large importation. This province and the Upper Enns enjoy the reputation of producing the finest wheat in the empire. In 1845, it is said, it was more than double the annual average, and more oats than barley. Besides these descriptions of grain, a very considerable supply of maize, amounting to 5,100,000 quarters yearly, is raised in various parts, particularly the south of Hungary, the Bukowina, the Danubian Lombardy, and Venetia; the last-named kingdom likewise produces from 131,000 to 142,000 quarters of rice, independently of 4400 to 5500 more grown in the marsh-lands of Temeswar, Slavonia, the Military-Frontier districts, Dalmatia, and other provinces in the south. It has been estimated, indeed, that the growth of these several substitutes for wheat and rye increases the annual produce of grain adapted for human subsistence to 41,400,000 quarters. Buckwheat, millet, podded grains (such as flax, hemp, etc.), barley, turnips, and other ordinary vegetables, are more or less cultivated in almost every part of Austria: nor is there any want of an adequate supply of fodder for horses and cattle, the growth of which is very necessary for the breeding of Bohemia, Slavonia, and Transylvania, under the name of the ruja, and is largely employed in some of the processes of dyeing.

The principal medicinal plants cultivated in Austria are—
rhubarb, which is raised in Styria, the Lower Enns, Bohemia, and Galicia; liquorice, a favourite article of growth in Moravia, whence 4000 tons and upwards are annually exported, and which is also gathered in the wild state in Hungary and Slavonia; manna, derived from the Prunus ornata, is cultivated in the Bukowina and Transylvania, and spikenard (Spicata Cetnica), which is collected with much care in the mountains of Carniola, Styria, the Tyrol, and the Upper Enns. The white species of this plant is mostly exported to the Levant, where the natural approach of the sea to the banks of the river has always been the scene of the commerce by which they conceive to be its invigorating properties. A brandy spirit is distilled in Carinthia and Styria from gentian, which is found in most of the elevated regions; and Iceland-moss is collected on the mountains of Carniola, Slavonia, and Transylvania. Whole forests of plums and damsons are to be met with in Hungary; and 10,000 acres of land are devoted to the produce of the former alone in the kingdom of Dalmatia. Besides the production of corn and other grains, Malvaceous manufactures above 600,000 gallons of Araratia (or Rahy), a brandy, extracted from the plum and damson, which is a favourite beverage among the Slavonians, and is also made in the Archduchy and Hungary; absinthus, figy, and essences, are produced in Dalmatia and Locris Magna; ivy, and other species of the southern provinces; some few of the northern provinces also produce the former; currants and raisins are exported from Dalmatia and the adjacent islands; and the graveola, pomaceanus, lime, lemon (which is extensively grown in Hungary and Moravia), orange, date, and also, are natives of some of the southern and south-eastern provinces. In these parts the olive is likewise cultivated largely; the best grow near Calata, and the district of Treia in Dalmatia, in which vernality prolong the produce of oil amounts to 30,000 or 31,000 barrels annually; Istria also manufactures about 30,000 barrels a year; but the production of this article is not at all adequate to the consumption of the empire at large. Meanas are extensively cultivated in Lombardy, Venice, and Hungary, but grown as a garden-fruit only in other parts of Austria. Hungary indeed has been called ‘The Paradise of the Melon.’ In that country, the fruit is raised both in the open field and garden, and eaten by all classes, of whom the first use the water-melon, which succeeds best in sandy soils.

We have seen that more than one-third of what is deemed the available soil of the Austrian dominions, is occupied by woods and forests; it is equal, indeed, to a fourth part and upwards of the whole area. The existence of this, or any natural occurence, that wood must constitute one of the staple productions. The more level district grow the oak, beech, ash, alder, elm, poplar, lime and linden, beech, and pines, whilst the fir, pine, larch, cedar, and yew, and, where these are not naturally grown, can be introduced, seek the more elevated regions. The Bohemian forest in Hungary, which is above fifty miles long, and from ten to fifty and twenty broad, and the Dragomanish in Illyria, as well as the forests of the Bukowina, Slavonia, and Dalmatia, abound in oaks of extraordinary dimensions.
and would afford inexhaustible resources to a state like England. The following details from Liechtenstein will however convey a more correct idea of the extent of the forest lands than any general remark. He states the woods and forests of Hungary to occupy a surface of 5,442,748 yochs; of Transylvania, 4,492,900; of Galicia, 3,858,811; of the Austrian states, 4,811,273; of the Austrian Crown lands, 2,172,793; of the Archduchy of Austria, 1,827,009; of the Tyrol, 1,508,680; of Styria, 1,507,214; of Lombardy and Venice, 1,465,460; of Illyria, 1,539,461; of Moravia and Silesia, 1,139,282; and of Dalmatia, 633,100; making the total of the forests of 36,755,900 yochs, or 44,530,000 acres. With respect to fuel, we have no means at hand of ascertaining the quantity of wood felled for its supply. The neglect of the forests, particularly in the mountainous parts of large towns, has become so crying an evil among the inhabitants of these regions, that a general attention has been roused to the subject, and much pains are taking to prevent the recurrence of a deficiency of fuel, by fresh plantations, in which Prince Liechtenstein has set a most useful example, above two millions of American trees and shrubs having been added to the woods on some of his estates in the Archduchy and Moravia. Among the products of the Austrian forests we may name potatoes, which are chiefly made in Hungary, Galicia, and the following states, and also in Bohemia. The Hungarian potash, of which about 1500 tons are produced, stands in highest estimation; the supply from Galicia, and from the Buckowine, where Buckowine is usually in a barren condition, and there are upwards of 600 manufacturers of the article in Bohemia, who produce 500 to 900 tons a year for exportation, besides supplying its domestic consumption, for which nearly 3500 tons are required. Moravia is also a considerable exporter of potash, and there is a sort made at Deutscherbrorof, in the Archduchy of Austria, which is said to be superior to any that is produced elsewhere. In no other province is this branch of manufacture carried to such a great extent; charcoal, gall-apples, and tarpentine should be added to this enumeration of the products of the Austrian forests, though they are not of considerable moment: that of tar, for instance, not exceeding 300 tons; that of gall-apples being not more than 8000 in yearly value; and that of tarpentine not exceeding 1000. The quantity of sawn annually made in the Austrian territory averages between 370,000,000 and 600,000,000 gallons. Of this produce, Hungary contributes 370,000; Lombardy and Venice, 85,670,000; the Archduchy, 36,000,000; Tyrol, 13,500,000; Silesia and Bohemia, below fifty thousand each; and Dalmatia, 70,000,000; Hungary, 70,000,000; and Bohemia, 45,000,000. The quantity contributed by the inhabitants themselves is estimated at about 40,000,000 gallons in Hungary, 35,000,000 in Galicia, the climate, as we have before remarked, being unfavourable to the cultivation of the vine, nor had any been made in the adjoining province of the Buckowine since within the last few years. The 'King of Wines' is a native of the Austrian soil: it is the produce of a district not much more than one hundred square miles in extent, situated on the high grounds of Tokai and Targac, which form part of the Heggulja range of the Carpathians, in the circle of Zempin, in north-eastern Hungary; and it is somewhat remarkable that the generous grape, from which the several species of Tokai are made, should ripen to such perfect sweetness as to be wholly devoid of acid at so high a latitude as 46°. The Tokai, Targac, and Mada sorts are eminent for their excellence, and are produced with the most delicate sweetness. In point of body, the Talis and Zambor sorts are preferred. Next to these, in the list of Hungarian wines, stands Rendszbach, a strong, sweet, and aromatic liquor; and the Ausbruch, or first quality of the Oeschenin, is also in demand among those who prefer a less powerful wine. The vineyards in the neighbourhood of Ofen also yield a wine of astringent quality, which is frequently substituted for Burgundy, Slavonia, Croatia, Transylvania, and the Austrian rivers in general. However, much would probably be deemed very little inferior to the best Hungarian or Rhenish. We know of no sparkling wine in Austria excepting that which is brought from the valley of Vinodol, in Croatia. The wines of Zemljanac, of Sopron, as well as the delicious Marsenam del Teocio, are produced in Dalmatia; but there are none of marked excellence made in the Italian provinces. The whole exports of this article from the 4 Austrian dominions are estimated at about 75,000 tons, a large amount of wine for so extensive a country.

Having thus pointed out the leading productions which characterize the vegetable kingdom in the Austrian Empire, we will now direct our attention to the resources with which the animal kingdom has supplied it. And here we shall again have recourse to Liechtenstein, who possessed sources of information to which few other writers on the subject are said to have had access. He tells us, that the domestic and more useful kinds of animals, of which the whole Austrian stock is composed, presents a large and important subject for a separate investigation.

Horses (including one to three year old foals) 1,800,000 to 1,900,000; mules and asses, from 60,000 to 70,000; horned cattle (including one-fifth for the young), 9,000,000 to 10,000,000; and the greater part of the improved breeds, 16,000,000 to 17,000,000; swine, 5,000,000 to 6,000,000; goats, 800,000 to 900,000. Blumenbach estimates the number of horses as high as 2,200,000; and of the sheep, at 15,000,000 or 20,000,000, among which are some few of the Dukshley and New Leicester breeds, introduced in 1825.

Malchus, a subsequent and very recent writer, has likewise investigated this subject with much care; and we give in the annexed table his estimate of the number of each species, to facilitate the comparison between the provinces.

<table>
<thead>
<tr>
<th>Province</th>
<th>Horses</th>
<th>Mules and Asses</th>
<th>Horned Cattle</th>
<th>Sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archduchy of Austria</td>
<td>1,800,000</td>
<td>60,000</td>
<td>9,000,000</td>
<td>2,200,000</td>
</tr>
<tr>
<td>Styria</td>
<td>1,500,000</td>
<td>50,000</td>
<td>7,000,000</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Tyrol</td>
<td>500,000</td>
<td>20,000</td>
<td>2,000,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Bohemia</td>
<td>300,000</td>
<td>10,000</td>
<td>1,000,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Carinthia</td>
<td>200,000</td>
<td>5,000</td>
<td>800,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Carniola</td>
<td>100,000</td>
<td>3,000</td>
<td>500,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Merino</td>
<td>50,000</td>
<td>1,000</td>
<td>200,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Lombardy and Venice</td>
<td>30,000</td>
<td>1,000</td>
<td>100,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Average</td>
<td>1,450,000</td>
<td>45,000</td>
<td>7,500,000</td>
<td>1,450,000</td>
</tr>
</tbody>
</table>

To this statement it may be added that the proportion of oxen to cows is estimated as being that of 7 to 12, and the whole number of mules and asses at between 58,000 and 59,000. With respect to the horse, the finest breeds are reared in Transylvania and the Buckowine; they are well formed, and of Turkish descent: the Hungarian, on the other hand, are of slender make, and common to the greatest plains; but they are a swift and durable race of animals. The Galician breed, with the exception of the few of Polish blood which are bred in the circles of Zlocsof and Brzany, are still more diminutive in size, and in general trained from a wild state, but they are remarkably hardy, as well as swift-footed. The Bohemian and Moravian horse is principally adapted for agricultural purposes, whilst the breed reared in the Archduchy, Styria, and Carniola, are of strong and powerful make, fitted for private use and military service; but the stock of the latter is by no means abundant. In fact, the supply of horses in the Austrian dominions is so inadequate to the demand, that they are compelled to resort to Naples, Halleckburg, and even our own country for carriage-horses, as well as to various parts of Germany for remounts for the cavalry. The immense studs, which the government maintains in Hungary, Galicia, the Buckowine, and other quarters, where thousands of the most useful animal are reared, have been contributed to replace the deficiency occasioned by the destructive succession of wars out of which Austria is emerging. Lombardy takes the lead in supplying mules and asses, and conjointly with Venice, they furnish a considerable portion of the working horses of 48,000 and 49,000 of them, above four-fifths of the whole Austrian stock. The mules of Illyria and the Tyrol are larger, stronger, and handsomer than the ordinary race, and as swift as the fleetest horse.

Of horned cattle, the chief breeds are reared in Hungary, Transylvania, Lombardy, and Styria; those of the first two countries are remarkable for their size and handsome horns, as well as the quantity and quality of their flesh; the Lombardy breed is by cattle of very small size and strong make; the Styrian breeds are the same large, long, bodied, crumpled-horned, short-legged race as the Carin.
AUSTRIA

An abundance of other poultry, is almost common in Bohemia, Galicia, and Hungary, in which quarters the Jews have contrived to monopolize nearly the whole traffic in down and quills. The pheasant of the finest Austrian breed is a native of the first-mentioned of these three kingdoms, though this bird abounds equally in all of them. The Tyrol is celebrated for the number of herds between 3000 and 4000. In value are annually sold, and some even in the markets of Constantinople. Game of all kinds is plentiful in most parts, and on the list of wild animals we find the bear, lynx, wolf, weasel, and stoat.

The breeding of sheep has in most parts been followed up to the injury of pastures. In Bohemia, Moravia, Silisia, and the lower Rus, a very marked improvement in quality, arising from the cross of the native breed with the Spanish Merino, has more than counterbalanced a trifling decrease in quantity. But there is no part of the Austrian dominions equal to the east of Hungary and to Transylvania for the extent of their flocks and pastures. Hungary, indeed, possesses so much larger a supply than is necessary for its own use, that there have been years when the exportation of half a million sheep and goats, independently of upwards of 170,000 lambs and 1,400,000 lbs. of wool. The latter, which is chiefly obtained from the common Hungarian race (Ovis aries), a breed with long twisted horns, and long shaggy coat, not found in Austria, and nowhere more productive of the best Merino-wool, Mount Ida and in some of the Greek islands, is but of coarse texture. In the western and southern parts of Hungary the breed has been improved by crossing it with Merinos, and now yields its fleece in much greater quantity. The sheep is carried to the markets of Sofia, where it has much increased its flocks during the last thirty years, and greatly improved them by mixing them with Merinos; its stock, which amounts to 375,000 only in 1807, has now risen to nearly 500,000. In the east of Lombardy, the Venetian territories, Dalmatia, and the Quarnasco islands, where the Paduan breed is reared, an excellent quality of wool is also obtained. On the whole, Austria does not, however, produce as much wool as the consumption of her manufactories requires, and therefore must make a large importation from Turkey and other countries. Her native supply has been estimated at 474,000 cwt. per annum; namely, about 10,000 of superfine, 970,000 of fine and middling, and 170,000 of coarse qualities. We should add, that there are five distinct races of sheep bred in Austria—the Hungarian, also called the Zschekelschaf, which we have just described, the common curly-coated sheep, the improved breed, the Paduan, and the pure Spanish or Merino species.

The rearing of goats is carried to so great an extent in some of the mountainous districts as to materially affect the general supply upon which the indigenous animals are fed for the sake of their milk. The Tyrol and Bohemia; but the government are anxious to diminish the stock on account of the injury which they do to young plants. 

Cows are kept in large herds throughout almost every province of Austria, particularly in Hungary, where the flesh is so favourite a food with the Magyar and Slavonian, that in some years two millions have been known to be slaughtered, besides 250,000 exported. They are mostly kept in the mountains or on the higher pastures, and beeches, at a distance from dwelling places, being driven up to pasture upon heaths in summer, where they feed on roots, snakes, and other reptiles, and in forests or other feeding grounds in the beginning of October. The markets of Dobrudia and Oelwillenburg, in Hungary, are unquestionably the largest markets for swine and lard in all Europe; it is said indeed that 'an Hungarian would die without lard, as surely as a German without coffee.' In the northwestern parts of Hungary, too, pasture is bred in such large quantities that a great portion is sent from there to Vienna without encountering flock upon flock of fowls, ducks, geese, and turkeys. The same may be said of the districts around the Austrian metropolis, and indeed more, of the large每每 Prince within convenient reach of large towns. (Sopron, etc.) and the herds from Sopron to the latter are the ordinary domestic fowls of the Transylvania. The wool of geese in Lombardy, where there is
article of export from Hungary and Slovakia; the cochineal insect draws many purchasers into the sandy tracts of Galicia from Turkey and Armenia; and the leech of late years has become an article of considerable trade between Austria and France.

Production. Austria surpasses every other country in Europe. With the exception of platinum, it would be difficult to name any metal which it does not possess. The richest of its gold-mines are in Transylvania, which has been called 'the gold-mine of Europe,' and which has four smelting-works with productive being at Voroschach, Sistalba, Fasabae, and Nagy-Arg; the annual quantity of pure metal which the whole yield is stated to be about 30,000 ounces. The gold obtained in Hungary is partly found in a pure state, but the greater part is obtained from copper ore; the mines of Lower Hungary produce about 20,000 ounces yearly, and those in the north-western districts about 1,200. There is a mining academy at Schemnitz (or Belomest-Banya), in the heart of the latter, which has greatly advanced the science throughout Austria, and become the resort of many foreigners who are desirous of studying it. The remaining produce of this metal, in the circle of Salzburg, the Tyrol, and other provinces, including the dust containing valuable metals, which there are in the mines of Saxony, Buda, &c., is estimated at more than 2,400 ounces; so that the total quantity of gold annually accruing to the crown is about 60,000 ounces, the gross value of which may be estimated at 26,400,000 florins, but which should be considerably less, for that gold found in the Austrian dominions is the property of the sovereign. Hungary possesses the richest of the silver mines, in which the mountains about Schemnitz and Nagy-Banya are most abundant; the whole supply annually derived from them is about 2,400,000 ounces, of which nearly three-fourths are from the Schemnitz district. The other parts of Austria which produce this metal are Transylvania, about 30,000 ounces; Bohemia, particularly the mines at Prisbaun, in the circle of Breslau, 155,000; the Bukovina, 22,000; Hungary, 10,000; Galicia, 4,600; and Salzburg and the Tyrol, about 4,000. The decline in the richness of the veins which were worked on Mount Trent in the province of Vicenza, and at Enna in the island of Sicily, of the mines of Lower Hungary, which occasioned them to be almost abandoned of late years. It would appear, therefore, that the annual produce of the silver mines is between 1,200,000 and 1,100,000 ounces, and their value is estimated at rather less than 200,000 florins. No part of the empire either is so rich in copper ore, or yields so large a supply of the metal, as Hungary: its most productive works are in the mining district of Schmölzits, or Szomolnok, where they employ between seven and eight thousand hands, and yield full two-thirds of the supply from the European mines. The ore is smelted into sulphate of copper, or 'cement water,' which the Zips brings down to Schmölzits, and of which instances again occur near Neusohl in northern, and at Jaskea in south-western Hungary, is too remarkable to pass unnoticed. The mines near the Danube, and near Budapest, and above those parts are saturated with sulphate of copper, which is precipitated on all iron thrown into them; in this way from 1600 to 1700 cwt. of copper is extracted from them every year. The copper works at Deva and Sisendomoces in Transylvania produce about 2500 cwt. per annum; the Styrian, 1900; the Illyrian, 1000; those of Galicia and the Buckowine, 2000; the Tyroese, 1200 to 1500; and the Dalmatian and Istran, 1600. On the whole, the annual supply of copper which is raised in the Austrian dominions, and which approaches 17,000 tons, or 2000 cwt. per annum. At least double this quantity of lead is produced; and above one-twelfth of it, namely, between 1750 and 2000 tons, proceed from the Styrian (lead mountain), Königsberg, and other mines in Carpathia. The Hungarian ores are, in value, the average per annum, about 1900 cwt.; and to these may be added 1100 from Bohemia, 250 from Transylvania, about 35 each from Salzburg and the Buckowine, and 50 from Dalmatia, Istria, and the maritime districts. The use of lead is very extensive, and they produce annually about 1800 tons; and these are not all waste. The quantity produced throughout the empire is about 2200 tons, and of this the supply of the country is about 950 tons, or 1200 cwt. per annum, and of this quantity nearly one-half is derived from Styria, Carnithia, and Carinola alone, the former produce about 83,500, and the latter two about 32,500. The most productive of the Styrian mines is that which lie between Eisenstadt and Vordenberg, and yield upwards of 14,000 tons, and those at Neuburg and Gabrath, which have been known to yield above 5000; the remainder supplied from fourteen other works in that province. Its iron is as well as its copper of Carinthia, and also of Styria, and at the same time one of the richest, iron mines in Europe, its product being from 8000 to 9000 tons a-year. The circles of Beraun, Rakonitz, and Plzens, in Bohemia, are also rich in this metal, of which the whole kingdom furnishes about 18,000 tons. The greater part of the iron obtained are Moravia and Silesia, in all about 30,000 tons; the Archduchy, between 1500 and 2000; Galicia, 2000; the forty-four works in the Buckowine, 450; Transylvania, 850 or 900; and Hungary, particularly in the circles of Komor, Liptau, and Solh, where the best of its iron is produced, and the first of which supplies 5000 out of the 7000 tons raised in that kingdom. The mountains of Lombardy lying within the territory of Brescia, Bergamo, Como, and the Valtelline, which contain, besides two of seven high-blast furnaces, are also estimated to produce from 5000 to 10,000 tons a-year, a considerably proportion of which is made into cast-iron. This is raised in no part of which a product is 10,000 tons, or 2000 cwt., which is far short of the consumption. The quality, however, is good; and indeed that which is obtained from the Schlaekenwalde mines, in the circle of Eilenbogen, is said to be equal to the best Cornwall tin. There is no mine of pitchblende in the empire, but which supplies iron for thirty-niola, the produce of which has, however, gradually declined from 12,000 cwt. a-year to its present amount, which is not above 4000; about 60 cwt. are also obtained from the Zaslauh works in Transylvania, and 840 cwt. more from the mines in Bohemia, and 8000 cwt. from the mines of Moravia, and about 200 cwt. of iron from Hungary, Transylvania, Bohemia, and Salzburg; and between about 6000 cwt., of which 2000 from the mines of Rosanau in Hungary, and the remainder from Transylvania, the Tyrol, and Bohemia. Chrome is got in the Tyrol, and about 700 cwt. of bismuth, and 800 of manganese, principally in Bohemia.

The various species of salt, such as sea, rock salt, and that made from brine-springs, exist in abundance. The second species is abundant on both sides of the borders; but there is also a species of Wieliczka, which has been worked over since the year 1253, and lies in the north-western part of Galicia, but is an inconsiderable scarp upon a massive bed extending for a length of nearly eight miles along the course of the river Pruth. Of its yearly produce, which amounts to 35,000 tons, three-fourths are composed of what is called 'green-salt,' salinio sól, a kind that abounds in mineral particles; the next kind, saylikowa sól, or 'shaft-salt,' is much purer and whiter; but the third, ockowala sól, or 'crystal-salt,' which is perfectly pure and transparent, is the quality used for the table. This, and the neighbouring mine at Bochnia, which yields about 12,500 tons per annum, is said to produce a net revenue of least 80,000; and the whole quantity of salt of all kinds raised in Galicia and the Buckowine is estimated at 82,500,000 tons, which includes 15,000 of remarkably white colour and fine quality, obtained by the process of boiling. The mines and boiling works in the archduchy of Austria, which is situated at Halenlin, Ebenose, Ischel, and Hallstadt, with those of the Salzburg, near Aussee in Styria, and at Hall in the Tyrol, yield a further supply of between 78,700 and 79,000 tons, which is extracted from the twelve mines in Transylvania, and 34,000 chiefly from the six rich mines of the circle of Marcarow in Hungary. Bay-salt, too, though to the limited extent of 30,000, is supplied from the salt-pits along the coasts of Danzig and Istran, and in the islands of the Adriatic. The annual quantity of salt, therefore, which the Austrian territory produces, appears to be about 375,000 tons, the whole of which is the produce of
A government monopoly of the most profitable kind; a de-
scurity, however, of between 20,000 and 30,000 tons still
remains to be imported for the consumption of the southern
provinces. Of vitrile, Austria raises about 10,600 cwt,
almost wholly in Bohemia and Illyria; alum, about 11,500
cwt., in the proportion of 1000 to 5000 of the Bohemian; 6600 from
Lechbach, and 2300 from Hungary; saltpetre, about 350 tons, of which 340 are made at the
government works in the east of Hungary, whence an
almost unlimited supply might be obtained; and soda, which
appears to have been obtained only from the vicinity of
the circle of Bihar, where above 10,000 cwt. of the purest
quality are frequently obtained in the course of the year.
The saline miasces of that kingdom likewise furnish an
abundant supply of the finest sort of sulphate of soda, or
Glass, as salts.

Although the forests furnish nearly the whole of the fuel
which is consumed in the Austrian dominions, there is
scarcely a province which is deficient in coal. At present,
however, the whole quantity raised is not estimated at
a higher value than 60,000 l., and scarcely amounts to
100,000 tons, which are obtained in the following proportions:
from the Archduchy, at the mines near Wiener-Neustadt,
10,000, and from four others in the Upper Ena, about 5000;
from Lower Illyria, and the valley of Soča, 25,000;
Styria, 15,000; from the Tyrol, 10,000; from Moravia, 10,000;
at the mines near Rossat, where excellent coke is also made;
from Hungary, chiefly the Odemburg mines, 28,000; and
from Galicia, 17,500. The remainder, about 25,000 tons,
is raised in the valleys of Leitha and the Dour, the districts
of Krems, and Brescia, and other parts of the kingdom of Lombardy and
Venice. And we may here incidentally remark, that not-
withstanding the abundance of pest or turf which is found in
the provinces of Styria, Galicia, and in the Archduchy of Hungary, and Galicia, this substance is nowhere used as
fuel in any quantity but in the first three of those provinces,
where, however, it is mostly employed in manufacturing
processes. Every part of the Austrian dominions possesses
materials for the production of coal and iron, although,
generally tar and oil are chiefly obtained in Galicia and the
Bukowine, where the country-people denominate them
'roppa'; but they are also produced, though but partially
turned to account, in the Archduchy, Hungary, Bohemia,
Illyria, and Dalmatia.

Among previous stones, the Bohemian carbuncle and
Hungarian opal stand in highest repute. The former, particu-
larly the carbuncle or garnet found in the circle of Leit-
menitz, is equal in quality to the superior Indian in colour,
as well as in hardness, to the oriental stone; it is a produc-
tion, also, of the Lower Ena, Hungary, and other
mountain districts in Austria. The latter is procured of the
finest quality from the opal mines on the Pecklen domains
in the circle of Branden, which occupy a surface of nearly
130 miles; inferior kinds are found in Transylvania, Mo-
ravia, and the Lower Ena. The chalcedony, ruby, emerald,
jasper, amethyst, topaz, carnelian, chrysolite, and beryl, as
well as all that is called the 'diamond' in Hungary,
must be added to the list of Austrian precious stones.
Marble of every description and variety of colour and vein
is raised either in Hungary, Transylvania, Bohemia, the
Archduchy, Tyrol, Styria, Illyria, Dalmatia, or the Italian
province Venetia, in which the most remarkable are said to possess 106 distinct varieties. Carnithia and Styria,
indeed, supply a quality of white marble no way inferior to
the celebrated 'Bianca di Carrara,' that of Nico freelance,
an island in the Dalmatian coast, is equally repute. Alba-
lino, too, is of common occurrence in various parts of
Austria. Marble, finest being a product of the Salzburg and Galician moun-
tains; the serpentine, black tournavine, and other valuable
substances of this class, are found both in the German and
Italian territories. The Archduchy, the Tyrol, and Styria,
considerable beds of graphite, or black
leath, of which only one is worked, exist in the Lower Ena,
and it is a product likewise of Moravia, Hungary, and
Transylvania. The best slate in Austria is found at Vranško,
least economical and of the finest quality of any in
which the whole area is supplied. The Styrian
gneisstones are of a much inferior quality to those which
are obtained from the quarries at Bergamo, and exported
to the United States and England. Bohemia, Styria, and
the Upper Ena, as well as other parts of Austria, produce
excellent alumines and silex for the manufacture of china
and earthenware; indeed, the porcelain made in the imperial
manufactory in Vienna, for which the material is procu-
ered from Engelskardzell in the Upper Ena and Passau, is
considered superior by many even to the Sèvres or Berlin
china for purity of colour and durability. The meerschaum,
of which the highly prized heads of tobacco-pipes are made, is
a product of Hungary and a part of Bohemia; and the
Krumau in the former province is esteemed equal in quality
to the Kiltshikoran of Anatolia. Neither is Austria any-
wise deficient in clays, stone, earths, or such other mineral
substances as are adapted to the use of the potter, builder,
and painter.

Every part of the Austrian dominions abounds in mineral
waters, and it is said that 1500 distinct springs may be
enumerated. Among the 150 which belong to Bohemia,
none enjoy so mineral a repute as the waters of Carlsbad,
Toplitz, and Eger, the last of which possesses acridulous
springs scarcely equalled by any others in Germany. The
waters of Bulin, precisely similar to the Seiler, the ferti-
ginous springs of Lichwenda, closely resembling those at
Boppard, and their neighborhood, and the springs of Renn,
a salt as much esteemed for its medical qualities as the
Epsom or Cheltenham, are all within the Bohemian borders.
The adjacent province of Moravia is likewise full of mineral
waters, and numbers of invalids from distant countries resort
there for the power of the medicinal springs, the
superb waters of Silesia. The scalduous waters of Robuch, near Clyly
in Styria, have, from their sparkling character and agreeable
flavour, acquired universal favour, in Italy especially, where
whereof the Archduchy of Hungary, no less than 320 mineral springs are said to have been already
discovered. The most esteemed springs in this
kingdom are at Bardiński and Fürst, and partake of
the same qualities as the Fymont water. The famous Her-
cules baths of Baden, as well as those of Reutlingen and
its sulphurous springs in the Hungarian division of the
Military-Frontier districts: but the recollection of their former
glory has not been sufficient to preserve them from entire
neglect in modern times. Transylvania also has an
abundance of mineral waters; in this, as in Hungary, there are several, of which little account is made, with
the single exception of the warm sulphur springs at Baden,
about twenty miles south of Vienna, with whose nobles and
loungers it becomes a favourite place of summer resort.
The alkaline steel springs of Dorna-Handri in the Buck-
owine; the acridulous waters of Krynița in Galicia; the
warm and delightfully clear sulphurous springs of the Gost-
ciner Wildbad in Salzburg; the ferruginous waters of the
spring of the Roman camp in the mountains of Abanno, Batalgia, and other spots along the Leguanian
districts in the Venetian territory; and the acridulous waters,
which flow near Lenna in Illyria; these are but a small
number of the mineral sources which form so marked a
characteristic of the Austrian Empire, and among which,
there become articles of consumption in foreign climes, and
among other places Nellitz and Schwetsch export 500,000
stone bottles, Robuch 400,000, and Bulin 50,000, filled
from their several springs.

In the beginning of this article we spoke of the popula-
tion of the Austrian Empire as being estimated, in the year
1831, at 33,630,384 souls; and it cannot but prove interest-
king to look back and trace the constantly fluctuating amount
of the population at each successive ten years'
bureau. At the decree of the Emperor Charles VI., in 1740, the
total of the house of Austria had a population of 17,439,700
souls; at the close of what is called the 'seven years
war,' in 1763, the disasters of that war had reduced it to
16,000,000; and at the death of the Emperor Joseph II., in
1771, an interval of seventeen years only having elapsed,
it had increased to 17,436,000; during the following ten
years—which were rendered memorable by the attempts at
social reform made by Joseph II., a monarch who displayed
resolution much more than judgment, and even clemency
forswore—it rose to 24,427,000; those numbers were found to
have increased after the treaty of Campo Formio, in
1797, five years subsequent to the present emperor a seven-
years' war, and first census, on May 12, 1809, 24,609,497; in 1815, after the new settlement of the
German States, in which the Austrian States were
preparing for proceedings, the number of its inhabitants was
22,652,000; in 1895 it was reduced under the treaty of Pressburg to 22,067,892; and again, in 1807, under that of Vienna, to 20,693,583. Upon the downfall of Napoleon, the restorations and cessions of 1815 enlarged the dominions of Austria. It was thereby increased, and found inhabited by 28,413,489 individuals; in 1815 they had increased to 31,692,888; and six years afterwards, as we have already seen, to 33,630,381. From these last data it will be found that the average yearly increase of the population of Austria during the thirty years, between 1818 and 1843, was 941,289; now that as interval was marked by frightful losses occasioned by the cholera in Hungary and many of the adjacent provinces, we may safely conclude from the figures in the preceding population, and conclude that it does not fall short of 34,633,000 souls. We are not possessed of equally safe data, however, as to the proportions with reference to sex; but even here we shall not fear to be misled by presuming them not to have varied, in any essential degree, since the year 1818, when the ascertained numbers were 13,845,947 males and 14,587,533 females; showing an excess of 721,586 in favour of the latter. In the same proportion, the present classification of sexes would give a proportion of about 15,864,000 males to 17,750,000 females. These proportions are, however, by no means uniform throughout the several provinces; for the excess of females in Bohemia is 1:2:14 in every hundred souls, and in Moravia 1:2:9; but in the provinces between the Elbe and the Danube in general, in every thousand, the number of females exceeds that of males by less than 1 in every 1000; indeed, it ceases altogether in Transylvania, where the male inhabitants exceed the female by 1 in every 4500. About four millions and a half of the whole population are distributed among the two religious confessions, and the remaining thirty millions upon agricultural and rural occupations: one-fourth, too, are generally considered as inhabitants of towns.

The great mass of the Austrian population is composed of six distinct races—distinct, as much by descent, features, and bodily conformation, as in character, language, manners, and usages. Nearly one half, about 16,300,000, is of Slavonic extraction. Of this race are the Wends or Ventspils, in Livonia and the eastern parts of Russia; the Slavs and Hungarians, in the territory of the Hungarian despot, which border upon Hungary, and in certain circles in the latter kingdom; the Czechs, i.e. aboriginal Bohemians, of Bohemia and parts of Moravia; the Hanaks, Slavaks, and Podelanaks of Austrian Silesia and Moravia; the Poles of (two distinct classes, the Mazuraks and Gorals), and Russiaki, or Russians of Galicia and the mountain counties of Hungary and Transylvania; and the Morlaks and Montenegrines of Dalmatia, the military frontier districts, &c. Of the Tyrol and Tiroler, a part is Protestant and parts German descent: their numbers are estimated at 6,400,000; they form an integral part of the population in the Archduchy, Styria, Carinthia and Tyrol, Moravia, and Silesia; but are separate communities in Hungary, where their numbers are between 800,000 and 900,000; in Transylvania, where they are denominated Saxons, and have increased to about 500,000; in Galicia, where there are 145 colonies, consisting of about 75,000 individuals; in the Military-Frontier districts to the extent of about 10,000; on the Kulpa, in Carniola, where the Gotchewers amount to 47,000 or 49,000 heads; and in the Venetian territories around Asagio, where they have lived isolated for centuries under the name of the Serbs and Szekli Comunali, and are about 35,000 in number. The third race are the Magyars, who migrated from the Kuma and settled around the banks of the Danube and Thaya in the ninth century; they are esteemed to be of pure Asiatic extraction, akin to the Tartar and Turk, and are a fine and intelligent class of men; they are about 4,500,000 in number, form the majority of the population of Hungary and Transylvania, and are possessed of the finest lands in both countries; some part are settled in Transylvania, and scattered throughout Dalmatia and other parts of Austria. The fifth race are the Valaks, Daco-Valaks, or, as they term themselves, Romanoi, a medley of ancient Thracians, Romans, and Slavo-Romanians, in number about 1,350,000, whose language is evidently a corrupted dialect of the Latin and Greek; the Romans, indeed, have proved their Roman origin by the fact that they colonized Dacia at an early period, and forwards allowed to recross the Danube in the reign of the Romanian: this is therefore sufficiently confirmed for Transylvania, Hungary, and the Bukowina. The Jews, to the extent of about 220,000, form the fifth race; nearly, one-half of them are settled in Galicia, and about 160,000 in Hungary; the remainder are dispersed over Bohemia, Moravia, and other parts of the empire. The Jewish population, in number about 190,000, consists of Zigeuner, or gipsies, of whom upwards of 100,000 are conjectured to exist as wandering people in Hungary, Galicia, the Bukowina, and other provinces; Arnauts, Greeks, Armenians, French, &c.

The established religion of Austria being the Roman Catholic, it will be inferred that it is the religion of the majority of its inhabitants; and this inference will be corroborated by the following estimate:

Roman Catholics, and Greeks received into union with them, 27,800,000; Greeks not in union, 3,000,000; Protestants, of the Lutheran and other denominations, 3,000,000; Jews, 500,000; Gipsies, Mohammedans, &c., 110,000.

A reference to our former enumeration will show that, with a view to the civil administration, either the antient subdivisions of the soil have been retained, which has been the case in more conquered provinces, or their limits have been formed. We have, therefore, as the component members of this monarchy, seven kingdoms—Hungary, Bohemia, Slavonia and Croatia, Dalmatia, Galicia and Lodomeria, and Lombardy and Venice; one archduchy, that of Austria; one imperial principality, that of Moravia; and a gravitate, Moravia; five duchies, Styria, Salzburg (which now forms part of the Archduchy of Austria), Carinthia and Carniola, which are incorporated with Illyria, and Silesia, which, with Bohemia, forms part of the kingdom of Bohemia. Of these provinces, the archduchy and most of the principalities, are governed by the emperor himself, and are termed imperial dominions, while the rest are governed by a viceroy. The territories of Austria are divided into an imperial and a sovereign jurisdiction, the latter being the most numerous. The provinces are divided into districts, or kreis, as they are called, numbering between 100 and 200 each. The districts are divided into cantons or towns, and the cantons into parishes or villages. The capitals of the several provinces are: Vienna, the capital of Austria; Budapest, the capital of Hungary; Prague, the capital of Bohemia; and Salzburg, the capital of the Tyrol. The provinces of Austria are divided into three departments, each having a governor, or president, and a council of state, consisting of from 75 to 100 members. The departments are: the imperial department, consisting of the provinces of Austria, Styria, Carinthia, and Carniola; the sovereign department, consisting of the provinces of Bohemia, Moravia, and Silesia; and the military department, consisting of the provinces of Hungary, Transylvania, and the Tyrol. The provinces are divided into districts, or kreis, as they are called, numbering between 100 and 200 each. The districts are divided into cantons or towns, and the cantons into parishes or villages. The capitals of the several provinces are: Vienna, the capital of Austria; Budapest, the capital of Hungary; Prague, the capital of Bohemia; and Salzburg, the capital of the Tyrol. The provinces of Austria are divided into three departments, each having a governor, or president, and a council of state, consisting of from 75 to 100 members. The departments are: the imperial department, consisting of the provinces of Austria, Styria, Carinthia, and Carniola; the sovereign department, consisting of the provinces of Bohemia, Moravia, and Silesia; and the military department, consisting of the provinces of Hungary, Transylvania, and the Tyrol. The provinces of Austria are divided into three departments, each having a governor, or president, and a council of state, consisting of from 75 to 100 members. The departments are: the imperial department, consisting of the provinces of Austria, Styria, Carinthia, and Carniola; the sovereign department, consisting of the provinces of Bohemia, Moravia, and Silesia; and the military department, consisting of the provinces of Hungary, Transylvania, and the Tyrol.
archduchess, and the heir-apparent or presumptive Imperial Crown Prince. The great offices of the imperial household consist of a Grand Marshal, Lord Chamberlain, Master of the Horse, and Grand Master of the Court; but as great occasions the hereditary great officers of the several provinces number 124, are summoned to increase their splendour.

The administration of public affairs partakes of a twofold character: on the one hand, there are departments which superintend and conduct the foreign affairs of the state, and those for the interior affairs of the lands. In the hands of the Privy Chancellery, consist of a director and five secretaries, to whom those decisions are made known to the heads of offices. The great departments for general affairs, or, as we should term them, secretaries of state, are — . The Privy Chancellery of the Household, Court, and State, divided into two sections, the one for domestic and the other for foreign affairs, but under one general presidency — that of the prime minister, or chancellor of state. 2. The Council of War, which, under its president, takes charge of every matter connected with military or naval affairs, as well as of the political government of the Military-Frontier districts. There are thirteen military administrations, subordinate to this council, for the various provinces. 3. The Ministry of Foreign Affairs, containing the control of all foreign relations of the state, connected with the foreign department connected with finance, taxation, coinage, government printing, stamps, the post-office, the provincial authorities, the property of the state, mining, manufactures, and commerce, is attached to it in the person of the Ministry of Foreign Affairs (Commission), for systematizing the land-tax, and regulating the maintenance, &c., of the military. 4. The General Directory of Accounts. The specific departments, which are subordinate to the general department of the Privy Chancellery, consist of the United Chancellery, together with the Board of Education in connexion with it: its superior chancellor (for there are three others) is minister of the interior, and its province extends beyond a certain point of a civil nature of matters connected with the general welfare, but not to the affairs of Hungary or Transylvania. Those of the former kingdom are under the cognizance of the Hungarian Chancellery, to which a Board of Education is also attached; and there is another Chancellery for Transylvania, with a special Board for regulating all matters connected with education, religion, and endowments. The United Chancellery has twelve provincial governments under its control, the respective seats of which are Vienna, Prague, Munich, Lina, Gritza, Leubisch, Priest, Zara, Innsbruck, Milan, and Venice. One of these, or a representative of a president, in general a vice-president, and as many members as are requisite. They form a subordinate executive for the conduct of all public business which does not immediately concern the sovereign of the judicial, ecclesiastical, and military authorities.

The administration of justice is under the superintendence of the Superior Ministry of Justice (oberste Justiz stelle), at the head of which there are two presidents. It is divided into two sections: one at Vienna, for the provinces of Bohemia, Galicia, Germany, Illyria, and Dalmatia; and the other at Verona, for the kingdom of Lombardy and Venice. There are nine high courts of appeal and criminal jurisdictions in them: those in Vienna, Prague, Brussels, Innsbruck, Klagenfurt, Zara, Milan, and Venice. Next there are sixteen special courts, termed Landraths, in as many different towns, for adjudicating matters relating to the nobility, clergy, and corporate bodies; and local courts (Ortsgut) for such matters as concern the common lads. In some provinces, particularly the Italian, there are likewise civil and criminal tribunals of the first instance. There is a special court at Vienna called the Secret Chancellery for deciding all judicial matters in which members of the imperial family and foreign subjects are interested. Suits in commercial and exchange concerns are determined by the Mercantile and Exchange Courts, which exist in every principal town; and suits in admiralty are referred to the Maritime Courts, which have delegate reference (bürgerliche-substitutionen) under them. Criminal matters belong exclusively to the local courts and magistrates. The clergy are amenable, in all temporal matters, to the temporal judicatures; but the military to their own tribunals. The sovereign enjoys, excepting in very few cases, the prerogative of making laws. All provincial statutes have been abolished; nor are any complete codes extant but in Hungary and Transylvania, which have their own courts of justice. The maintenance of public order and prevention of public affairs are vested in the ministry of police, assisted by provincial and district boards. The censorship of the press is also wholly confined to its jurisdiction; but Hungary falls no way behind in publishing without regard or security of detail, for we are not disposed to follow others in attempting to unravel that over which the government has, at least by withholding information, thrown as almost impenetrable veil of mystery. We shall therefore confine ourselves, on the present occasion, to quoting what Malchus, himself once minister of finance under two German sovereigns, has stated as the general result of very diligent inquiries. 'A portion of the public income,' he observes, 'is derived from the immediate property of the king and the nobility; and a considerable portion from royalties and monopolies; but the greater part proceeds from taxes and rates, which are not, however, raised according to any uniform system for the whole state. The annual total of real and personal taxes (not including the absence of official data, can only be estimated with an approximative approach to the reality, can scarcely be less, after allowing for the expense of collection and management, than 15,000,000 golden (about 14,859,000l.); and on this might perhaps be set down 15,000,000 (or 14,860,000l.). This is also the estimate of Blumenczsch.) Towards the amount the immediate property of the state contributes about 15,000,000 (or 14,250,000l.); a sum of 61,000,000 (or 58,075,000l.); the provision for the revenue of the Upper Ems, with Salzburg, 4,000,000, or 3,940,000l.; Bruns, the same, 570,000l.; the Tyrol, 4,500,000, or 4,427,000l.; Illyria and the Maritime Territory, 4,700,000, or 4,627,000l.; Bohemia, 15,500,000, or 1,583,000l.; Moravia and Alsace, 15,000,000, or 1,490,000l.; of the kingdom of Hungary, 33,217,000, or 3,155,700l.; Transylvania, 6,500,000, or 617,500l.; Dalmatia, 500,000, or 47,500l.; and the kingdom of Lombardy and Venice, 18,000,000, or 17,090,000l. The sum of these several amounts, however, is 15,100,000, which is a little above Malchus's estimate, but not by a sum so understating less than Malchus's estimate. With respect to the expenditure, be added, we labour under a paucity of these, and these refer to earlier times: they are indeed so imperfect and equivocal a description, that they cannot possibly serve as the groundwork of any estimate of the present amount of the public expenditure. And has amount is borne out by that of the writer who has supplied us with the preceding amounts: 'A much greater degree of stability and security,' says Halle, 'is necessary in the public expenditure than the income. This only is not to be questioned, that the army alone absorbs one-third of the whole revenue, though not so much as Liechtenstein asserts, nearly 14,000,000 golden (13,500,000l.); whilst he states the expense of the crown and public duties at 54,000,000 (5,138,000l.). All personal and many other charges are defrayed by the sovereign out of his private property, which is not in any way connected with the public revenue, and not unusually large amount. Moreover important the subject may be, we must not enter therefore, with our present ignorance; and we close it with the remark, that the amount of the public debt, according to Malchus's calculation, may be estimated at between 160,000,000 l., and the annual payments of 80,000,000, or 76,000,000l.; and that the amount of paper money has been reduced to 53,411,510 golden, or 8,564,400l.

The management of the military resources of Austria, as
we have before remarked, is committed to the council of war; these resources are of two classes, the one the peace, and the other the war establishment, as shown in the following statement:

The Infantry, in time of peace, consists of 58 regiments of the following strength:

15 Hungarian and Transylvanian, 8016 rank and file, 593 in the remaining provinces, 1921, 81,851
7 regiments of Grenadiers, 50 battalions of 600 each, 30,050
7 regiments of Sharpshooters, viz. 238 of 2500, and 12 of 5000 each, 62,735
2 regiments of Voltigeurs, 649 in Lithuania, and 12,340 in 16 districts, 9,390
11 Frontier Regiments, viz. 272,445 and 9,482 in each, 42,915
6 regiments of Musketeers, 10,000 in 16 districts, 9,100
4 regiments of Musketeers, 13,815
20 regiments of Pioneers, 10,000 in 16 districts, 2,430
2 regiments of Artillery, 1,075
3 regiments of Artillery in 12 districts, 2,490
2 regiments of Artillery in 12 districts, 2,490
The Corps of Engineers, 500
Demi-Engineers, viz. 7 companies of Sappers, 797, 2,007
Artillery, 8,009
Infantry and Artillery Drills, 271
2 regiments of Infantry, 10,000
2 regiments of Artillery, 1,075
The Corps of Engineers, 500
Demi-Engineers, viz. 7 companies of Sappers, 797, 2,007
Artillery, 8,009
Infantry and Artillery Drills, 271
2 regiments of Infantry, 10,000
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Artillery, 8,009
Infantry and Artillery Drills, 271
2 regiments of Infantry, 10,000
2 regiments of Artillery, 1,075

Total military force on the peace establishment 286,902

Whom, however, the enemy is to be placed on the war footing, the subsequent augmentations take place:

In the Infantry, an increase of 660 to 700 rank and file to the 43 regiments not Hungarian, 29,240
Legion of the first battalion of the Landwehr (Militia), being 2 added to each regiment, 11,416
Legion of the third battalion of the 35 Hungarian and Transylvanian regiments, 17,620
Legion of the second battalion of the 35 Hungarian and Transylvanian regiments, 11,416
Legion of the fifth battalion of the Landwehr, for reserve, 1,000, added to the 43 regiments 69 companies, 14,198

And afterwards:

Legion of the Reserve of the Frontier Troops, 30,000 224,276
The two remaining companies of the 35 battalions of Land wehr, 18,480

Add the peace establishment, 344,598

The infantry on the full war establishment, 490,092

In the Cavalry, the Hungarian inscription, about 16,744

Supposing, therefore, that no augmentations be made to the other corps in the service, the disposable force of the empire, when carried to its full war complement, amounts to 449,633 infantry, 53,714 cavalry, and 30,657 artillery, engineers, &c., which give a total of 537,224 men, or at the rate of about 13 in the rank and file, every male peasant and citizen being liable to serve in the line from the age of 19 to that of 27, and from the latter age until he attains of 50, in the Landwehr; the only exemptions are in favour of the nobility and clergy, and in a few other instances. The Hungarian and Transylvanian troops are recruited by bounty, or filled up by the contingents to which the nobility and free towns are subject. The number of field-officers, attached and unattached, is 416; viz., 8 field-marshals, 34 field-masters-general and generals, 12 field-marshal-lieutenant, 199 major-generals, and 309 colonels.

The military seminars comprise the Academy of Engineers in Vienna, in which 79 cadets are gratuitously educated; the Military Academy at Wiener-Neustadt for 447 cadets intended to serve on the quarter-master-general's staff; the Military Academy at Waizen in the circle of Pest in Hungary; the Cadet Companies at Olmitz and Grätz, each for 124 to 180 pupils; the Schools of Artillery; and the Military Cadet Institution at Milan; there besides 48 schools for the military education of boys; 54 regimental schools; a Military Geographical Institution at Milan; a Medico-Chirurgical Academy in Vienna for pupils intended for the army service; veterinary schools in the same metropolis, and at Pesth and Milan an establishment for forming gunmakers at Steyer in the Upper Enns. There are invalid hospitals in Vienna, Prague (with which three branch establishments are connected), Pesth in Hungary placed Pesth, and Vienna in France and Tyrmann. Soldiers not wholly disabled are drafted into the invalid battalion at Ceneda in the delegation of Venice, or enjoy pensions which vary according to their length of service.

The number of actual fortresses amounts to 26, of which the most important are Eisenstadt in Carinthia, Gradisca, Josephstadt, Carlsburg, Kingingrätz, Komorn, Legnano, Mantua, Olmitz, Palma-Nuova, Pesciher, Prague, Pfarverdein, Ragusa, Salzburg, Temesvar, Theresienstadt, Venice, and Zara.

The Austrian government have also the right of garrisoning the papal fortresses of Commachio and Ferrara, as well as Placentia in the principality of Parma, and Mayence in conjunction with Prussia. Besides these there are 60 fortified places of inferior strength, which are not under the government of the Archdukes, but the territory is divided into 13 military districts, each under the control of a general of superior rank, assisted by a regular establishment with five subordinate departments, viz., a military, political, economical, victualling and clothing, and judicial department. The council at war in Vienna consists of 15 different departments for conducting the various branches which come within its cognizance.

The Austrian navy is under the management of a naval commandant at Venice, who is accountable to the council of war. It consists of between thirty and thirty-four vessels of war; among which are three ships of the line in ordinary, five frigates, five sloops, eight brigs, and six schooners. The establishment is attached to it 550 marines, and engineers, a cadet academy, and a corps of marines. The flag, which is borne also by the merchant vessels, is of a red ground, with a broad white stripe in the centre.

In a preceding page we have spoken of the Roman Catholic as the established religion, and given an enumeration of the numbers who adhere to that faith and the other leading creeds professed by the people of Austria. With the exception of Hungary, Transylvania, and the kingdom of Lombardy and Venice, there is no part of the empire in which at least the letter of the law places the non-conformist upon anything like an equality of rights with the Catholic; in the other provinces, whether he be Protestant, Greek, or Jew, he is interdicted from any profession of the Gospel. The Roman Catholic Church of Austria acknowledges the Bishop of Rome as its visible head, but is otherwise sufficiently independent of it, as all appeals to the Rota Romana are prohibited, and no papal bull or decretal can be promulgated in any form. The pope's nuncio is recognized in no other character but as an ordinary envoy from his court; nor have the horrors of the Inquisition at any time been allowed to disgrace the Austrian soil. Persecution, it is true, has at times despoiled the land with blood, but never otherwise than as the effect of over-excited religious antipathy and a spirit of retaliation. At the head of the hierarchy are the thirteen archbishops of Vienna, Prague (primate of Bohemia), Lombar, Milan, Legnitz, Prague, Olmitz, Graz, and the same time primate of Dalmatia, Gran (primate of Hungary and hereditary legate from the Roman see), Eralu and Kolocza (for the states of Hungary), Lemberg, Smaltalo, Ragusa, Salzburg, and Udina (for the kingdom of Lobardy and Venice). The archbishops of the national church have also an archbishop at Lemberg. Next to these its heads follow the sixty bishops, most of whom are suffragans of the archbishops, to whose sees their dioceses are generally subordinate. In the second clergy consist of two tituclar bishops, the members of the diocesan chapters, six heads of collegiate endowments, archpriests, deans, rural deans, parish priests, local chaplains, co-operators and vicars, and beneficed ministers. The higher clergy, consisting for 447 cadets intended to serve on the quarter-master-general's staff; the Military Academy at Waizen in the circle of Pest in Hungary; the Cadet Companies at Olmitz and
and Venice (where every available acre is judiciously cultivated); but there are parts, such as the north of Hungary, Upper Styria, Carnishta, the Maritime Frontier, Dalmatia, the Tyrol, and some of the islands, where there is a few or more or less of every kind of produce from 131,000 to 142,000 quarters of rice, independently of 4,400 to 5,600 more grown in the marsh-lands of Temeswar, Slavonia, the Military Frontier districts, Dalmatia, and other provinces in the south. It has been estimated, indeed, that the growth of these several substitutes for wheat and rice increases the annual produce of grain adapted for human subsistence to 41,400,000 quarters. Buckwheat, millet, podded grains (the Bohemian pea particularly), and lentils, rapessed (turnips), sparrow-grass, and ordinary vegetables, are or more less cultivated in almost every part of Austria: nor is there any want of an adequate supply of fodder for horses and cattle, in the growth of which, especially of clover and lucern, Lombardy, Styria, the Tyrol, Dalmatia, and the Upper Ena, are invigorated like the countries of France. Though we have no complete accounts of the produce of the meadow lands in Austria, an approximate estimate may be arrived at by assuming the crop of hay and aftermeal to be the same as that of the Tyrol, Lombardy, and the Upper Ena. The average annual price of hay for the whole yearly supply will give about 12,250,000 tons for the yearly supply. Much pepper (called popria, or Turkish pepper) is derived in Hungary from the cappucum annuum; mustard is raised everywhere, the finest in Moravia and Lombardy; and horseradish, of which Lombardy and the provinces of Znyam in Moravia; ginger is cultivated in the Lower Ena and Slavonia, and trifles chiefly in Lombardy. Among commercial products the tobacco, raised to the extent of 200,000 cwt. in the south of Hungary, is accounted by some the best which is grown in Europe; an excellent kind is also produced in Slavonia, Transylvania, and Galicia; and no small quantities in Styria, the Tyrol, Lombardy, and other districts. The quality of the latter is generally inferior; but the whole produce is 75,000 cwt., and the excess for exportation beyond the domestic consumption. Of those 75,000 cwt., about 300,000 are raised in Hungary alone, 80,000 in Transylvania and the Military Frontier, 120,000 in Galicia, and 50,000 in Moravia. Of hops, Bohemia not only yields the finest sort in Germany, but has been known in some years to export as many as 12,000 or 15,000 cwt.; Galicia, Moravia, and Transylvania raise sufficient for their own consumption. Flax, of uncommonly fine quality and great length of fibre, is cultivated about Crema in Lombardy, and other parts of the delegation of Loddi and Brescia; the Silesian is scarcely inferior to it; and, next to the latter, stand Moravia, Bohemia, Styria, the Lower Ena, Hungary, and Carnishta. The whole quantity raised in the last and other northern provinces, however, inadequate to supply the demand, although Transylvania makes it an article of export to Wallachia. Hemp of peculiar goodness is grown in the district of Hanna in Moravia, and inferior qualities in Silesia, Transylvania (which exports large quantities), Styria, Bohemia, Carnishta, and the Tyrol, but what is raised in Hungary is of worse colour and shorter fibre. Though hemp is not so universally cultivated in Austria as flax, it ranks second in the order of the staple productions. A substitute for this article, called Gunster, grows in the wild state in Dalmatia and Croatia. The indigo of North Carolina has been transplanted to the Milanese, and is said to grow in the original state in the same and general excellence; and the profit of the Lombardy provinces is not superior, to any grown in Europe: it is one of the products too of Hungary and some of the islands on the coast of Dalmatia. The cultivation of manure, which was introduced into the Lower Ena at the close of the last century, has been checked by the return of peace; it is now principally confined to some few districts in the south of Hungary, where it appears to have been raised and locally much, as a matter of earlier days; though the subject is not generally known. Besides indigo, a species of indigo, which is a product of Slavonia and Carnishta, wood is reared as a substitute for indigo in Hungary, Bohemia, and in the eastern parts of the Lower Ena; safflower is no longer a product of Bohemia, where, we are told, the improper use made of it as a article of food by the peasantry has occasioned its cultivation to be prohibited, but it continues to be grown in large quantities in Hungary and the Tyrol. The principal horses are produced in the eastern parts of the empire and foreign countries, is carried on in Hungary in what is called yellow wood (rhista cotinum), the stem of a shrub which grows spontaneously in the southwestern districts and Slavonia, under the name of the woods, and is largely employed in some of the processes of dyeing.

The principal medicinal plants cultivated in Austria are—rubia, which is raised in Styria, the Lower Ena, Bohemia, and Galicia; liquorice, a favourite article of growth in Moravia, whence 400 tons annually are annually exported, and which is also gathered in the wild state in Hungary and Slavonia; manna, derived from the Prunus aurum, which abounds in the forests of Hungary and Slavonia; and blue poppy, which is extensively used in the hospitals and apothecaries in the mountains of Carnishta, Styria, the Tyrol, and the Upper Ena. The white species of this plant is mostly exported to the Levant, where the Turks and Greeks make use of it in their baths on account of what they conceive to be its invigorating properties. A market for safflower is found in Carnishta and Styria from gentian, which is found in most of the elevated regions; and Iceland-moss is collected in considerable quantities on the Carpathian mountains, where its growth is extensive.

The cultivation of fruits is carried to a great extent in every part of Austria, with the exception of Galicia; the best descriptions are raised in the Archduchy, Styria, the Tyrol, Moravia, and Bohemia, Illyria, Lombardy, Croatia, Slavonia, and Dalmatia. The larger number of the fruit gardens and small gardens are scattered throughout the western part of the empire, and the adjacent islands; while the smaller gardens are in the north and south-eastern provinces. In these latter the grape is cultivated largely; the best grow near Carne, and the district of Traun in Dalmatia, in which valency the principal oil produced is 50,000 or 60,000 barrels per annum; Istria also manufactures about 30,000 barrels a year; but the production of this article is not at all adequate to the consumption of the empire at large. Melons are cultivated in Lombardy, Venise, and Hungary; but as garden-fruits only in other parts of Austria. Hungary indeed has been the best time to be cultivated for melons. In that country, the fruit is raised both on the open field and garden, and eaten by all classes, of whom the lower use the water-melon, which succeeds best in cold climates.

We have seen that more than one-third of what is deemed the available soil of the Austrian dominions, is occupied by woods and forests; it is equal, indeed, to a fourth part and upwards of the whole area; and it will therefore naturally follow that the same occupations are more extensively pursued than in almost any other country in Europe. The more level districts grow the oak, beech, ash, alder, elm, poplar, lime or linden, birch, willow, and plantain; whilst the fir, pine, larch, cedar, and yew, and, where these will not thrive, the dwarf pine and larch, prevail, save in the mountains and higher forest in Hungary, which is above fifty miles long, and from ten to five and twenty broad, and the Draganisch in Illyria, as well as the forests of the Buckowma, Slavonia, and Dalmatia, abound in oaks of extraordinary dimensions.
and would afford inexhaustible resources to a state like England. The following details from Lichtenstein will however convey a more exact idea of the extent of these forests. The woods and forests of Hungary to occupy a surface of 8,948,740 yochas; of Transylvania, 4,492,900; of Galicia, 2,645,373; of Bohemia, 3,139,811; of the Military Frontier districts, 2,172,793; of the Archduchy of Austria, 1,585,650; of Lichtenstein, 1,530,600; of Lombardy and Venetia, 1,465,400; of Illyria, 1,359,461; of Moravia and Silesia, 1,120,285; and of Dalmatia, 633,100, making altogether a total of 31,166,748 yochas, or about 44,000,000 acres. With proper fuel, we have no means at band of ascertaining the quantity of wood felled for its supply. The neglect of the forests, particularly in the neighborhood of large towns, has become so crying an evil among the Austrines of late years, that general attention has been directed to the subject, and much praise is taking to prevent the recurrence of a deficiency of fuel, by fresh plantations, in which Prince Lichtenstein has set a most useful example, above two millions of American trees and shrubs having been added to the woods on some of his estates in the Archduchy and Moravia. Among the products of the Austrian forests we may name potatoes, which are chiefly made in Hungary, Gailicia, and the Buckowine, Moravia, the Archduchy, and Bohemia; and in regard to the number of tons produced, stands in highest estimation; the supply from Galicia, and from the Buckowine, where fourteen works yield above 300 tons annually, is also considerable; and there are upwards of 600 manufacturers of the article in Bohemia, where 5000 tons are produced for exportation, besides supplying its domestic consumption, for which nearly 5000 tons are required. Moravia is also a considerable exporter of potatoes; and there is a sort made at Deutsch-Brodersdorf, in the Archduchy of Austria, which is said to be superior to any that is produced elsewhere. In no other province is this branch of manufacture carried to any extent. Tartar, charcoal, gall-apples, and turpentine should be added to this enumeration of the products of the Austrian provinces, though they are not of consideration; that of tar, for instance, not exceeding 300 tons; that of gall-apples being not more than 8000 l. in yearly value; and that of turpentine not exceeding 1000 l.

The quantity of wine annually made in the Austrian territory averages between 570,000,000 and 600,000,000 gallons. Of this produce, Hungary contributes 370,000; Lombardy and Venetia, 83,670,000; the Archduchy, 36,000,000; Transylvania, 15,000,000; Styria and the Tyrol, about 9,500,000; Carinthia, 8,500,000; Galicia, 6,800,000; and Bohemia, 605,000. The quantity consumed by the inhabitants themselves is estimated at 523,000,000 or 540,000,000 gallons. No wine is made in Galicia, so the climate, as we have before remarked, being unsuitable to the growth of the vine: nor has it been made in the adjoining province of the Buckowine until within the last few years. The 'King of Wines' is a native of the Austrian soil: it is the produce of a district not much more than one hundred square miles in extent, situated on the high grounds of Tokai and Tarczal, which form part of the Hegyalja range of the Carpathians, in the circle of Zemplin, in north-eastern Hungary; and it is somewhat remarkable that the generous grape, from which the several species of mode, sauté, and suave sweet-wines, as well as the sweet andromatic liquor, is derived, has the same short and intense clime of origin, that is peculiar to the best Hungarian or Rhinisch. We know of no sparkling wine in Austria except that which is imported from the valley of Vinidol, in Croatia. Some strong wines, particularly Muscatel and Portusces, as well as the delicious Mihai del Tez are produced in Dalmatia; but there are none of marked excellence made in the Italian provinces. The whole exports of this article from the 4 Austrian dominions are estimated at about 75,000,000 gallons.

The forests of Austria produce principally the leading productions which characterize the vegetable kingdom in the Austrian Empire, we will now direct our attention to the resources with which the animal kingdom has supplied it. And here we shall again have recourse to the general estimates made by Gmelin, which are at present confirmed upon by other writers on the subject, are said to have had access. He tells us, that the domestic and more useful classes of animals, of which the whole Austrian stock is composed, returns for the year 1822:

Horses (including one to three year old foals) 1,600,000 to 1,500,000; mules and asses, from 60,000 to 70,000; horned cattle (including one-fifth for the young), 9,000,000 to 10,000,000; sheep (of which about one-eight are of improved breeds), 16,000,000 to 17,000,000; swine, 6,500,000 to 6,000,000; goats, 800,000 to 900,000. Blumenbach estimates the number of horses as high as 2,300,000; and of the sheep, at 19,000,000 or 20,000,000, among which are some few of the Dusheley and New Leicester breeds, introduced in 1823.

Malchus, a subsequent and very recent writer, has likewise investigated this subject with much care, and we give the following statement upon his authority, to which we have added some such principal provinces, in order to facilitate the comparison between them:

<table>
<thead>
<tr>
<th>Province</th>
<th>Horses</th>
<th>Mares</th>
<th>Stallions</th>
<th>Horned Cattle</th>
<th>Sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archduchy of Austria</td>
<td>14,000</td>
<td>11,000</td>
<td>2,000</td>
<td>3,000,000</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Tyrol</td>
<td>10,000</td>
<td>7,000</td>
<td>1,500</td>
<td>2,000,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Bohemia</td>
<td>8,000</td>
<td>6,000</td>
<td>1,000</td>
<td>1,500,000</td>
<td>1,500,000</td>
</tr>
</tbody>
</table>

To this statement it may be added that the proportion of oxen to cows is estimated as being that of 7 to 12, and the whole number of mules and asses at between 55,000 and 59,000. With respect to the horse, the finest breeds are reared in Transylvania and the Buckowine; they are well formed, and of Turkish descent: the Hungarian, on the other hand, are of slender make, and commonly much below fifteen hands, their greatest height being usually about 14 hands. The Galician breed, with the exception of the few of Polish blood which are bred in the circles of Zloczof and Bresary, are of still more diminutive size, and in general trained from a wild state, but they are remarkably gay, as well as swift-footed. The Bohemian and Moravian horse is principally adapted for agricultural purposes, whilst the breed reared in the Archduchy, Styria, and Carinthia, are of strong and powerful make, fitted for private use and military service; but the stock of the latter is by no means abundant. In fact, the supply of horses in the Austrian dominions is so inadequate to the demand, that they are compelled to resort to Naples, Mecklenburg, and even our own country for carriage-horses, as well as to various parts of Germany for remounts for the cavalry. The immense stud, which the government maintains in Hungary, Galicia, the Buckowine, and other quarters, where thousands of this useful animal are reared and trained, have, however, not contributed to replace the deficiency occasioned by the destructive succession of wars out of which Austria is emerging. Lombardy takes the lead in supplying mules and asses, and conjointly with Venetia possesses a stock of 48,000 and 49,000, of which 10,000 are above fifteen years of age, and 48,000 of the whole Austrian stock. The males of Illyria and the Tyrol are larger, stronger, and handsomer than the ordinary race, and as swift as the fleetest horse.

Of horned cattle the choicest breeds are reared in Hungary, Transylvania, Lombardy, and Styria; those of the first two countries are remarkable for their size and handsome horns, as well as the quantity and quality of their flesh; the Lombard, the Styrian and Hungarian breeds, and are of handsome size and strong make; the Styrian breeds are the same large, long bodied, crumpled-horned, short-legged race as the Carin
thens and Croats. Although Hungary, Galicia, and their

southern neighbours export between 150,000 and 150,000

head of cattle annually, their graziers have not been fortunate

enough to have been constantly on the decline during

the last forty years; the Austrian farmer and grazier

having found it to their interest to attend rather to their

flocks than their herds. The produce of Austria in tallow,

cheese, cheese, and other kinds of manufactu-

res. Buffaloes are bred in parts of the south of

Hungary, as well as in Transylvania and Slavonia, where

they are used for the purposes of draught, it being found

that, in those countries at least, a buffalo can draw a heavier

load than three native horses, and is indicative to the

quality of his food: their milk is also extremely rich.

The breeding of sheep has in most parts been followed

up to the injury of the stock of cattle. In Bohemia,

Moravia, the Low-silesian and the Lower Galician parts

are not so rich in quality, arising from the cross of the native

breed with the Spanish Merino, has more than counter-

balanced a trifling decrease in quantity. But there is

no part of the Austrian dominions equal to the east

of Hungary and to Transylvania for the extent of their flocks

and pastures. Hungary, indeed, possesses so much larger a

supply than is necessary for its own use, that there have

been years when it has exported above half a million of

sheep, and is now exporting from 170,000

lambs and 1,400,000 lbs. of wools. The latter

is chiefly obtained from the common Hungarian race

(ovis strepenceros), a breed with long twisted horns, and

long, clothy, hairy wool, not found elsewhere excepting on

Muravievo, in the east of the Carpathians, and

coarse texture. In the western and southern parts of

Hungary the breed has been improved by crossing it with

Merinos, and now yields very fine wool. Galicia has

much increased its flocks during the last thirty years, and

greatly improved them by mixing them with Merinos; its stock,

which amounted to 375,000 only in 1807, has now risen to

nearly 550,000. In the east of Lombardy, the Venetian
territory, Dalmatia, and the Quarnaro Islands, where the

Parish of the cattle is an excellent quality of wool

obtained. On the whole, Austria does not, however, pro-

duce as much wool as the consumption of her manufactu-

res requires, and therefore makes up the deficiency by

importation from Turkey and other countries. Her natural

supply has been estimated at 474,000 cwt. per annum;

namely, about 10,000 of superfine, 270,000 of fine and

mudding, and 170,000 of coarse qualities. We should add,

that there are five distinct races of sheep bred in Austria;

the largest is the Zechelbian breed in the Carpathian

mountains, just described, the common curly-coated sheep, the improved

breed, the Padman, and the pure Spanish or Merino species.

The rearing of goats is carried to so great an extent in

some districts that animal food is eaten at certain periods

of the year. We have been assured that in some

instances the number may be estimated at 500,000 or 600,000. They are

primarily bred in the mountainous districts of Austria and

Lombardy, and good choice is made from their milk in the

Tyrol and Bohemia; but the domestic fowls of the Transyl-

vanian, the west of Lombardy, where there is

an abundance of other poultry, is simply counterbalanced

in Bohemia, Galicia, and Hungary, in which quarters the

turkeys have been introduced, and are used partly in

down and quills. The pleasant of the finest Austrian

breed is a native of the first-mentioned of these three king-

doms, though this bird abounds equally in all of them.

The Tyrol is celebrated for rearing canary birds, of which be-

comes in 3000, 4000, and 5000 cwt. per annum;

i.e. a peculiar breed. It is said indeed that ' an Hungarian

would die without coffee.' In the north-

western parts of Hungary, too, prosperity is bred in such large

quantities that one can scarcely pass from village to village

without encountering flocks upon flocks of low

ducks, geese, and turkeys. The same may be said of the districts

around the Austrian metropolis, and indeed more or less,

of every province within convenient reach of large towns.

Cattle and sheep are carried away by thousands from Styria

the latter are the ordinary domestic animals of the Transyl-

vanian. The west of gomardy, where there is

the streets of Austrian empire abound in Austria. The

is found in the Lower Austrians, and the Tyrol, where the Turks

are sometimes caught that weigh fifteen

hundred pounds. Next to the sturgeon is the pike,

the largest of which is at times forty pounds in weight; it

is found with the carp and trout in the Theiss and other

rivers in Austria; but it is not to be confused with the

lamprey of the Milanesi to the salmon of the Vistula,

for each interwending stream or sheet of water, we should

omit scarcely one species out of the numerous fresh water

fishes which abound in the countries of Europe. We must

not, however, forget the pearl-bearing mussel which was

raised in the rivers of Hungary, the Archduchy, and Bohemia

of which the finest are taken in the Vata, where a

regular pearl fishery is carried on, and in the Moldau, Ilz,

White, and Kaseebach. The oil of Dalmatia, in particular in Lake Sebenecko; and the tunny

mackerel, anchovy, and other sea-fish are caught in the

Adriatic. The fisheries on the Dalmatian coast employ

fifty individuals, and yield a yearly return not far short of

500,000 fls.

The rearing of the silkworm, though not wholly neglected

in other parts of the south of Austria, is no where carried on
to such an extent as in the territory of Lombardy and

Venes, where it was introduced from the two Bessars by the emperor

Charles V. The western districts of this kingdom, and

those on the right bank of the Mincio, are said to produce nearly

3,500,000 pounds of silk per annum, and there on its

left bank, which comprehend the Venetian provinces, about

500,000 pounds; both together not exceeding seven-eighths of all the silk raised in the

Austrian dominions, and give employment to upwards of 100,000 hands.

This branch of industry is actively prosecuted also in the

eastern districts of the Tyrol and Illyria, as well as in Dal-

matia, which produces considerable quantities of raw silk.

An inconsiderable quantity is likewise raised in the

south of Hungary, Slavonia, and Croatia. On the whole

it has been computed that the annual production of silk

in Austria amounts to 3,700,000 pounds weight, of which from

1,300,000 to 1,700,000 are used for domestic manufacture, and

that its value is between 1,500,000 fls. and 1,700,000 fls. sterling.

Nemrich states that the Milanese alone yields 23,000 pounds weight more than all Pedmont; but that the quan-

tity, though better than the French, is inferior to that of

the Piedmontese, next in goodness to which stands the Bres-

arian. A very considerable proportion of this article in

the wroght state, chiefly of the sort termed 'organs,' is

exported from the Italian provinces to the English market.

Bees are a peculiar object of much labour and

attention in Austria, and numbers of them who

receive an income from their productions, possess aparatus

of 150 or 500 hives. In many parts, however, those industrious

people are almost entirely to their interest, or at least

no other care is bestowed upon them than the hole in the tree in which they establish their communal

wealth, and providing them with a shelf. In Dalmatia,

where the small districts of Cattaro annually exports about

1,500,000 pounds weight of wax and honey, the hives are con-

structed of rough marble with a marble lid, and the

Austrian honey is the white kind made in Hungary and

Galicia: the whole quantity produced is estimated at

330,000 cwt., to which 20,000 cwt. of wax may be added.

Besides the bee, cantharides, or Spanish flies, are a con-

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considerable article of export from Hungary and Slavonia; the
earthly insect draws many purchasers into the sandy tracts of
Galicia from Turks and Armenians; and the lease of late
years has become an article of considerable trade between
Austria and Portugal.

In Mineral Productions Austria surpasses every other
country in Europe. With the exception of platinum, it
would be difficult to name any metal which it does not
possess. The richest of its gold-mines are in Transy-
vania, which produced one third of the national output
and in which no less than forty are worked, the most
productive being at Voráschatz, Szalatafa, Fashebay,
and Nagy-Ag; the annual quantity of pure metal which
there is produced is about 20,000 ounces. The gold
obtained in Hungary is partly found in a pure state,
but most commonly extracted from silver, and even at times
from copper ore: the mines of Lower Hungary produce about
20,000 ounces yearly, and those in the north-western dis-
tricts about 5,000. There is a mining academy at Schem-
nitz (or Selmecei-Banya), in the heart of the latter, which
has greatly advanced the science throughout Austria, and
become the resort of many foreigners who are desirous of study-
ing it. The remaining produce of this metal, in the circle of
Salzburg, the Tyrol, and other provinces, including the dust
collected in the Danube, Murh, Drave, Marosch, &c., is, as
is not estimated at more than 2,400 ounces; so that the total
quantity of gold annually accruing to the crown is about 60,000
ounces, of which the mine of Béuna, about 26,000. And here it
should be observed, that all ores found in the Austrian dominions are
the property of the sovereign. Hungary possesses the richest of the
eutreizes, in which the mountains about Schemnitz and Nagy Ag contain
the ore; and the annual produce, riveted from that kingdom is about 1,100,000 ounces, of which
nearly three-fourths are from the Schemnitz district. The
other parts of Austria which produce this metal are Transy-
vania, about 45,000 ounces; Bohemia, particularly the mines at
Hradiska, in the circle of Béuna, 103,000; and the
lace, from the lead-mines near Kirhaha, 9600; Styria,
19,000; Galicia, 4600; and Salzburg and the Tyrol,
about 4000. The decline in the richness of the veins which
was noticed already in the 17th century, the inroads of the
Vendues, and at Anasberg, in the province of the Lower Lus, has
occasioned them to be almost abandoned of late years.
It would appear, therefore, that the annual production of
the silver mines is between 1,390,000 and 1,300,000 ounces, and
that value is estimated at rather less than 220,000l. No
part of the empire is so rich in copper ore, or yields so
large a supply of the metal, as Hungary: its most produc-
tive works are in the mining district of Schmilinitz, or
Szomolkosz, where they employ between seven and eight
thousand men; and the mines are about 300 feet below the surface
of that kingdom, which amounts to 140,000 cwt. at least.
The "cement water," which the Zips brings down to Schmilinitz,
and of which instances again occur near Neuosol in northern
Austria, is a mass of very hard, and is so formidable
as to be passed over without notice. The rivers in
these parts are saturated with sulphate of copper, which is
precipitated on all iron thrown into them; in this way from 1500
to 1700 cwt. of copper are extracted from them every year.
The copper works at Davos and Szenndomokos in Transy-
vania produce about 2500 cwt. per annum; the Styrian,
1000; the Ilyrian, 1000; those of Galicia and the Buck-
swick, 2000; the Tyrolese, 1200 to 1500; and the Dalmatian
and Istrian, 1000. On the whole, the annual supply of copper
from Austria is estimated at 12,500 to 15,000 cwt., and is not
likely to appear to amount to about 2500 or 3000 cwt. More than
doubly this quantity of lead is produced; and above one
fourth of it, namely, between 1750 and 3000 tons, proceed
from the Bleyberg (salt mountain), Hinterberg, and other
mines in Carinthia. The Hungarian are next in value, their
produce averaging about 1200 tons a-year; and to these
may be added 1100 from Bohemia, 350 from Transylvania,
about 32 each from Salzburg and the Buckswick, and 50
from the circle of Béuna, making the whole quantity of the
whole yearly produce of lead is estimated, however, at 9000
tons. Iron is a metal of which almost inexhaustible
reserves exist, though, on account of the dearness of fuel,
they have not yet been turned to any very extensive
use. The iron mines in the empire are at present
about 80,000 per annum, in value about 600,000l.
and of this quantity nearly more than one-half is derived from Styria, Carinthia, and Carniola alone, the former pro-
vice producing about 33,500 and the latter two about
23,000. The most productive of the Styrian mines are those
which lie between Eisenerz and Vorderberg, and yield
upwards of 14,000 tons, and those at Neuburg and Gobrach,
which have been known to yield above 5000; the remainder
is supplied from fourteen other works, worked in the
iron, as well as that of Carinthia, which was known among
the Romans by the name of 'Noric Iron,' is in general
placed for its excellence on a par with the Swedish,
and Dutch, and sometimes takes the name of "English iron.
In the Hüttenberg, Carinthia possesses one of the oldest
and at the same time one of the richest, iron mines in Europe,
its produce being from 8000 to 9000 tons a-year. The circles
of Béuna, Rakonitz, and Pristen, in Bohemia, are also rich
in this metal, and produce about 5000 tons a-year. The
whole of the iron smelted in Austria is about
10,000 tons. The other parts of Austria from which it is
obtained are Moravia and Silesia, in all about 9000 tons;
the Archduchy, between 1200 and 2000; Galicia, 2000;
the fourteen works in the Buckswine, 450; Transylvania, 850
or 900; and Hungary, particularly in the circles of Gomar,
Liptau, and Sohl, where the best of its iron is produced,
and the first of which supplies 5000 out of the 7000 tons raised
in that kingdom. The mountains of Lombardy lying within
the territory of Brescia, Bergamo, Como, and the Valteine,
where there are 50 shafts open, which supply iron for thirty-
sevens high-blast furnaces, are also estimated to produce
from 5000 to 10,000 tons a-year, a considerable proportion
of which is made into tin. Tin is raised in no part of Austria but Bohemia, and the whole of the 2700 tons produced
2000 cwt., which is far short of the consumption. The quality,
however, is good; and indeed that which is obtained from the
Schlackenwalde mine, in the circle of Eilenbogen, is said to
equal that of the French. There is no mine of quicksilver in Europe so rich as the mine at Idria in Car-
niola, the produce of which has, however, generally declined
from 12,000 cwt. a-year to its present amount, which is not
above 4000; about 80 cwt. are also obtained from the Ze-
land mine, near Atzberg, in Transylvania, and from the
mines in Bohemia, Hungary, and Carinthia. Calamine
and zinc, to the extent of 6500 cwt., are obtained from the
Tyrol, the Archduchy, Styria, and Bohemia; cobalt, about
1000 cwt., viz., from the circle of Béuna, and at 1300, Styria, 250, and Bohemia, 100; arsenic, about 250 cwt.,
from Hungary, Transylvania, Bohemia, and Salzburg;
and antimony, about 6000 cwt., of which 2000 from the
mines of Rosenau in Hungary, and the remainder from Transylvania, the Tyrol, and Bohemia. Gold is found in the
Tyrol, and about 700 cwt. of bismuth, and 850 of man-
ganese, principally in Bohemia.
The various species of salt, such as sea, rock salt, and that
made from brine-springs, exist in abundance. The
following table shows the amount of the Carpathians,
and the celebrated mine of Wielicka, which has been
worked over since the year 1253, and lies in the north-western
circle of Galicia, is but an inconsiderable inroad
amongst the 6000,000 cwt. produced yearly, mostly by the
mines of the Carpathians, as far as Okna in Wallis-
chia. Of its yearly produce, which amounts to 35,000 tons,
three-fourths are composed of what is called 'green-salt,'
"zeolite," a kind that abounds in mineral parlaces; the
next kind, "byubora söl," or "shaft-salt," is much purer and
sharper; but the third, ockowala söl, or "crystal-salt,"
which is perfectly pure and transparent, is the quality used for
the table. This, and the neighbouring mine at Bochnia,
which yields about 12,500 tons a-year, produces a net revenue of at least 600,000l. yearly to the state;
and the whole quantity of salt of all kinds raised in Galicia
and the Buckeswike is estimated at 89,500,000 tons, which
include 15,000 of remarkably white colour and fine quality,
obtained by the process of boiling. The greenhouse
works in the archduchy of Austria, which are principally
situated at Hullein, Ebenee, Ischel, and Hallstadt, with
those of the Saltsberg, near Ausee in Styria, and at
Hall in the Tyrol, yield a further supply of between 76,000
and 70,000 tons a-year, which is obtained from the
d twelve mines in Transylvania, and 34,000 chiefly from the
six rich mines of the circle of Marmaro's in Hung-
ry. Bay-salt, too, though to the limited extent of 30,000
tons a-year, is supplied from the circles of Car-
matia and Istria, and in the maritime districts and Quar-
neric islands in the Adriatic. The annual quantity of salt,
therefore, which the Austrian territory produces, appears to
be about 275,000 tons, the whole of which is the produce of
a government monopoly of the most profitable kind; a duty, however, of between 20,000 and 50,000 tons still remains to be imported for the consumption of the southern provinces. Of vitriol, Austria raises about 10,000 cwt. almost wholly in Bohemia and Illyria; alum, about 11,000 cwt., in the proportion of 2500 tons of alumina from Bohemia, 4500 from Moravia, 3500 from the Archduchy, and 2300 from Hungary; saltpetre, about 350 tons, of which 340 are made at the government works in the east of Hungary, whence an almost unlimited supply might be obtained; and soda, which, although in large supply in the province of Upper Hungary, is imported from the circle of Bihar, where about 10,000 cwt. of the purest quality are frequently obtained in the course of the year. The saline morasses of that kingdom likewise furnish an abundant supply of the finest sort of sulphate of soda, or Glisana, as salts.

Although the forests furnish nearly the whole of the fuel which is consumed in the Austrian dominions, there is scarcely a province which is deficient in coal. At present, however, the whole quantity raised is not estimated at a higher value than 60,000/, and scarcely amounts to 100,000 tons, which are obtained in the following proportions: from the Archduchy, at the mines near Wiener-Neustadt, 10,000; and from four others in the Upper Ena, about 5000; from the mines in Sichesia, about 7000; from Styria, 15,000; from the Tyrol, 16,000; from Moravia, 10,000; at the mines near Rossatz, where excellent coke is also made: from Hungary, chiefly the Oedenburg mines, 25,000; and from Galicia, 17,500. The remainder of the coal is produced in the district of Venetia, the province of Brescia, and other parts of the kingdom of Lombardy and Venice. And we may here incidentally remark, that notwithstanding the abundance of peat or turf which is found in Bohemia, Galicia, and the Archduchy, Hungary, and Galicia, this substance is nowhere used as fuel in any quantity but in the first three of those provinces, where, however, it is mostly employed in manufacturing processes. Every part of the Austrian dominions possesses more or less coal, as is the case with the Allgau, but especially with the Bukowina, whose annual produce is 2500 cwt.; Hungary, which could supply nearly the whole consumption of the empire from the works at Radoboz in the circle of Varsadun, produces, in conjunction with Bohemia, about 3000 cwt.; and Styria produces about 450 cwt. Mineral tar and oil are chiefly obtained in Galicia and the Bukowina, where the country-people denominate them 'ropas'; but they are also produced, though but partially turned to account, in the Archduchy, Hungary, Bohemia, Illyria, and Dalmatia.

Among previous stones, the Bohemian carbuncle and Hungarian opal stand in highest repute. The former, particularly the carbuncle or garnet found in the circle of Leitomischel, is singularly superior in the quality of the colour, as well as in hardness, to the oriental stone: it is a production, also, of the Lower Ena, Hungary, and other mountain districts in Austria. The latter is procured of the finest quality from the opal mines on the Peklen domains in the circle of Bansk, which occupy a surface of nearly 130 miles; inferior kinds are found in Transylvania, Moravia, and the Lower Ena. The chalcedony, ruby, emerald, jasper, amethyst, topaz, carnelian, chrysolepis, and beryl, as well as what is called the 'martin diamond' in Hungary, must be added to the list of Austrian precious stones. Marble of every description and variety of colour and vein is raised either in Hungary, Transylvania, Bohemia, the Archduchy, Tyrol, Styria, Illyria, Dalmatia, or the Italian possessions, of which there are numerous quarries said to possess 160 distinct varieties. Carnithia and Styria, indeed, supply a quality of white marble no way inferior to the celebrated 'Bianca di Cerrara,' that of Neo Para, an island on the Dalmatian coast, being equal repute. Aix, also, is of common occurrence in various parts, the finest being a product of the Salzburg and Galician mountains; the serpentine, black tourmaline, and other valuable substances of this class, are found both in the German and Italian possessions. The Archduchy, Styria, Tyrol, and Galicia; considerable beds of graphite, or black lead, of which only one is worked, exist in the Lower Ena, and it is a product likewise of Moravia, Hungary, and Transylvania. The best state in Austria is found at Vinschga, near Wolfsberg, and near the Harz in Germany, from which thewhole supply is supplied. The Styrian grudlensteines are of a much inferior quality to those which are obtained from the quarries at Bergamo, and exported to the United States and England. Bohemia, Styria, and the Upper Ena, as well as other parts of Austria, produce excellent alumine and salze for the manufacture of china and earthenware; indeed, the porcelain made in the imperial manufactory in Vienna, for which the material is procured from Engelsdorff in the Upper Ena and Passau, is considered superior by many even to the Sévres or Berlin china for purity of colour and durability. The meerschaum, of which the highly prized beds of Rosice in upper Moravia, and which is used as a salt as much esteemed for its medical qualities as the Epson or Cheltenham, are all within the Bohemian borders. The adjacent province of Moravia is likewise full of mineral springs, and these, with the more numerous in Austria, no less than 321 mineral springs are said to have been already discovered. The most esteemed springs in this kingdom are at Bartfeld and Füre, and partake of the same qualities as the Pyrmont water. The famous Herrenbrück, near the German frontier, is also celebrated for its waters and its sulphurous springs in the Hungarian district of the Military-Frontier districts; but the recollection of their former glory has not been sufficient to preserve them from entire extinction. Transylvania and Bukowina are not destitute of mineral waters; but the absence of the warm sulphur springs at Baden, about twenty miles south of Vienna, with whose nobles and loutresses it becomes a favourite place of summer resort. The alkaline steel springs of Donner-Handwien in the Bukowina; the acquisitive waters of Kryntza in Galicia; the warm and delightfully clear sulphurous springs of the Gössener Wildbad in Salzburg; the ferruginous waters of the white and red brumous springs of Bad Abano, Badia, and other springs along the Euganean depositories in the Venetian territory; and the acquisitive waters, which flow near Leusa in Illyria; these are but a small number of the mineral springs which form so marked a characteristic of the Austrian soil. Many of these become articles of consumption in foreign climes, and among other places Scedits and Seidschatz export 500,000 stone bottles, Rohitsh 400,000, and Bilno 50,000, filled from their several springs.

In the beginning of this article we spoke of the population of the Austrian Empire as being estimated, in the year 1751, at 33,610,000 souls; and it cannot but prove interesting to look back and trace the constantly fluctuating amount of the population, which has been the subject of so much anxiety and forethought. The population, as we may suppose, increased to 34,579,000 in 1763, the year of the death of the Emperor Charles VI., in 1764, an interval of seventeen years only existing elapsed, it had increased to 66,564,000; during the following ten years—which were rendered memorable by the attempts at revolution and the downfall of the Archduchy of Austria, formed by Joseph II., a monarch who displayed more resolution than judgment, yet destined for those foreseen—it rose to 94,427,000; these numbers were found to have increased after the treaty of Campo Formiao, in 1775, five years subsequent to the present emperor's accession to the throne in 1740, and the new settlements of the German states, in which Austria was engaged for preceding losses. The number of its inhabitants was
28,543,000; in 1805 it was reduced under the treaty of Pressburg to 25,067,989; and again, in 1807, under that of Vienna, to 20,695,883. Upon the downfall of Napoleon, the restorations and cessions of 1815 enlarged the dominions of Austria beyond all former limits. in 1819, therefore, during the Austrian occupation of Servia, Bulgaria, Hungary, and Transylvania, they had increased to 31,424,888; and six years afterwards, as we have already seen, to 32,630,381. From these last data it will be found that the average yearly increase of the population during the thirteen years between 1816 and 1831, was 401,399; now that as interval was marked by frightful losses occasioned by the cholera in Hungary and many of the adjacent provinces, we may safely assume that average in our estimate of the existing population. Considering that it is still about 34,620,000 souls. We are not possessed of equally safe data, however, as to the proportions with reference to sex; but even here we shall not fear to be misled by presuming them not to vary, in any essential degree, since the year 1816, when the ascertainned numbers were 13,845,947 males and 14,574,535 females; showing an excess of 721,588 in favour of the latter. In the same proportion, the present classification of sexes would give a proportion of about 16,400,000 males to 17,276,000 females. These proportions are, however, by no means uniform throughout the several provinces; for the excess of females in Bohemia is 1 2:4189 in every hundred souls, and in Moravia 1 3-92%; but in the greater part of the southern provinces it is less than 1 in every 1000; indeed, it ceases altogether in Transylvania, where the male inhabitants exceed the female by 1 in every 4500. About four millions and a half of the whole population are said to be dependent upon trade and manufactures; one million and a half upon commercial inland and inland occupations; one-fourth, too, are generally considered as inhabitants of towns.

The greatest part of the Austrian population is composed of six distinct races or classes, as much by descent, features, and mode of conversation, as in manners, and usages. Nearly one half, about 16,200,000, is of Slavonic extraction. This race is the Venden or Wendish, in Illyria and the eastern parts of Styria; the Venden in the province of the Hungarian Netherlands, which border upon Hungary and in certain circles in the latter kingdom; the Czechs, i.e. aboriginal Bohemians, of Bohemia and parts of Moravia; the Hanaks, Slawaka, and Posenlaks (Magyars) of Austraia and Moravia; the Poles (of two distinct classes, the Mazurische and Gorale), and Russians, or Russians of Galicia and the mountain confines of Hungary and Transylvania; and the Morlaks and Montemgrets of Dalmatia, the military frontier districts, &c. The Tyrold and Venetian peoples, the first in point of intelligence and usefulness, is of German descent; their numbers are estimated at 6,400,000; they form an integral part of the population in the Archduchy, Styria, Carinthia, the Tyrold, Moravia, and Bohemia, but are of a prejudiced, with the exception of certain limits as to the exercise of the legislative and executive powers in Hungary and Transylvania, which he shares in common with the diets of both countries. Every other province but Dalmatia, the Military-Frontier districts, and the maritime territory, has its provincial assemblies; the rights of these representative bodies are, however, of very dissimilar nature, though few of them are invested with any higher privilege than that of submitting reports and representations to the emperors, and of the age of fourteen; but, as respects the emperors, and of the age of eighteen. During a minority the empress-dowager, or next relative of the minor, assumes the regency, provided no special provision has been made by declared charter; but this rule does not apply to Austria, where the hereditary regent is the minister of law enacted in the year 1485. The minister presides the Roman Catholic faith, and cannot, under a family compact, marry any female unless she is of royal family. The princes and princesses of the imperial family are styled archdukes and
aristocracy, and the heir-apparent or presumptive Imperial Crown Prince. The great offices of the imperial household consist of a Grand Marshal, Lord Chamberlain, Master of the Horse, and Grand Master of the Court; but on great occasions the hereditary justicers of the temporal princes, number 134, are summoned to increase their splendour.

The administration of public affairs partakes of a twofold character: on the one hand, there are departments which supervise and control widely scattered interests of the state; and, on the other, there are offices the duties of which are confined to isolated portions of the monarchy. At the head of the former is the Council of State and Conferences, consisting of present of four members, which exercises a general control over the government, and determines its decisions to the Privy Cabinet, composed of a director and several secretaries, by whom those decisions are made known to the heads of offices. The great departments for general affairs, or, as we should term them, secretariats of state are—1. The Privy Chancery of the Household, Court, and State, divided into two sections, the one for domestic and the other for foreign affairs, but under one general presidency—that of the prime minister, or chancellor of state. 2. The Council of War, which, under its president, takes charge of every matter connected with military or naval affairs, as well as of the political government of the Military Frontier districts. There are thirteen military administrations, subdivided, for the provinces. 3. The Ministry of Finance, under a special minister, controls every department connected with finance, taxation, coinage, government printing, stamps, the post-office, the provincial authorities, the property of the state, mining, manufactures, and communications subject to it in the General Board (Commission), for systematizing the land-tax, and regulating the maintenance, &c., of the military. 4. The General Directory of Accounts.

These departments, which are subordinate to the section for domestic affairs of the Privy Chancery, consist of the United Chancery, together with the Board of Education in connection with it: its superior chancellor (for there are three others) is minister of the interior, and its province extends over a wide range of interests which concern the general welfare, but not to the affairs of Hungary or Transylvania. Those of the former kingdom are under the cognizance of the Hungarian Chancery, to which a Board of Education is also attached; and there is another Chancery for Transylvania, with a special Board for regulating all matters connected with education, religion, and endowments. The United Chancery has twelve provincial governments under its control, the respective seats of which are Vienna, Prague, Nurnberg, Brunn, Kolmar, Pressburg, Stettin, Zara, Innsbruck, Milan, and Venice. Each of them has a president, in general a vice-president, and as many members as recruits. They form a subordinate executive for the transaction of public business which does not immediately fall under the cognizance of the judicial, ecclesiastical, and military authorities.

The administration of justice is under the superintendence of the Superior Ministry of Justice (oberste Justizstelle), at the head of which there are two presidents. It is divided into two senates: one at Vienna, for the provinces of Bohemia, Galicia, Germany, Illyria, and Dalmatia; and the other at Verona, for the kingdom of Lombardy and Venice. There are ten high courts of appeal and criminal judicatures subordinate to them: there are nine high courts of appeal and criminal judicatures in Vienna, Prague, Brunn, Lemberg, Innsbruck, Kienfurst, Zara, Milan, and Venice. Next there are sixteen special courts, termed Landrichter, in so many different towns, for adjudicating matters relating to the nobility, clergy, and corporate bodies; and local courts (Ortgerichte) for such matters as concern the commonalty. In some provinces, particularly the Italian, there are likewise civil and criminal tribunals of the first instance in a provincial court at Vienna called the Superior Earl-Marshall's Office, for deciding on judicial matters in which members of the imperial family and foreign envoys are interested. Buits in commercial and exchange concerns are determined by the Mercantile and Bank Court, which is in every capital and in its centralizing and centralizing, which have delegate referees (berggerichte—substituitions) under them. Criminal matters being exclusively to the local courts and magistracy. The clergy are amenable, in all temporal matters, to the temporal judicatures; but the military to their own tribunals.

The sovereign enjoys, excepting in very few cases, the prerogative of making laws. All provincial statutes have been abolished: nor are any complete codes extant but in Hungary and Transylvania, which have their own jurisprudence.

The maintenance of public order and prevention of offences are vested in the ministry of police, assisted by provincial and district boards. The censorship of the press is also wholly confined to its jurisdiction; but Hungary falls under the same law as the rest. Judges are a surgeon and physician, paid by the state, and have charge of every circle or district.

When treating hereof in Hungary and Transylvania, we shall have another opportunity to speak of the judicious systems in those countries.

Another most important prerogative enjoyed by the sovereign of Austria is that of an irresponsibility over the public income and expenditure. This is a subject however, which it is impossible to treat in any detail or accuracy of detail, for we are not disposed to follow others in attempting to unravel that over which the government has, at least by withholding information, thrown as almost impenetrable veil of mystery. We shall therefore confine ourselves, on the present occasion, to bequeathing that Malesch, himself once minister of finance under two German sovereigns, has stated as the general result of very diligent inquires. "A portion of the public income, he observed, is assigned to the state, consisting of crown lands and mines, and another portion from royalties and monopolies; but the greater part proceeds from taxes and rates, which are not, however, raised according to any uniform system for the whole state. In the absence of official data, can only be estimated with an approximative approach to the reality, can scarcely be less, after allowing for the expense of collection and management than 5,000,000 (or 3,800,000) by indirect taxation and royalties. The amount contributed by the different subdivisions of the empire has been thus computed (viz. by Hassel, in his statistical outline).—By the provinces of the Lower Ems, 18,500,000, or 13,300,000; the Upper Ems, with Salzburg, 6,300,000, or 4,500,000; Bruns, the same, 570,000, or 420,000; Illyria and the Maritime Territory, 6,700,000, or 537,000; Bremen, 1,100,000; Silesia, 1,000,000; Bavaria, 8,000,000, or 780,000; Galicia, 15,000,000, or 11,500,000; Hungary, 33,217,000, or 2,515,700; Transylvania, 5,500,000, or 517,000; Dalmatia, 500,000, or 41,500; and the kingdom of Lombardy and Venice, 16,000,000, or 12,000,000. The sum total is 57,220,000, or, however, 12,000,000, which is above one-half a sterling less than Malesch's estimate. With respect to the expenditure, he adds, we labour under a paucity of data, and these refer to earlier times; they are indeed of so imperfect and equivocal a description, that they cannot possibly serve as the groundwork of any estimate of the present amount of the public expenditure.' And his opinion is borne out by that of the writer who has supplied him these data. 'A much greater degree of uncertainty prevails,' says Hassel, 'on the subject of expenditure than the income. This only is not to be questioned, that the army alone absorbs one-third of the whole revenue, though not so much as Leichtemser asserts, partly 140,000,000, while the crown outlay is 100,000,000; whilst he estimates the expenses of the crown and civil defences to be 34,500,000 (5,130,000). All personal and many other charges are defrayed by the sovereign out of his private purse, which is not in any way connected with the public treasury, and which is at once a matter of utmost importance. The subject may be of course must be stated, therefore, with our present ignorance; and we close with remarking, that the amount of the public debt, according to Malesch, is estimated at between 900 and 850 millions of guilders (or 43,700,000 and 43,400,000), and that the amount of paper-money has been reduced to 55,411,516 guilders, or 2,654,100. The management of the military resources of Austria, as
we have already remarked, in connection to the events of war; these measures are of two classes, the one for the army and the other for the navy. Consideration, as in the following statement:

The Emperor is in view of various events. He has issued:
1. Comprehensive regulations for the army.
3. Measures for the administration.
4. Instructions for the interior.
5. Provisions for the economy.

The Cavalry, as one of the key elements of the army, has:
1. New uniforms.
2. Improved equipment.
3. Enhanced training.

The Royal Guard has been strengthened:
1. New recruits.
2. Improved training.

The General Staff has been augmented:
1. New field marshals.
2. Improved communication systems.

The navy has also been strengthened:
1. New ships.
2. Enhanced training.

In conclusion, the preparations for war are underway, with measures to strengthen both the army and navy. The Emperor's orders are comprehensive, covering various aspects of the preparation process.

Total military force as of the current date:

Army:
- Infantry: 300,000
- Artillery: 40,000
- Cavalry: 50,000

Navy:
- Fleet: 150 ships
- Submarines: 10

The navy has a total of 750,000 personnel, including officers and enlisted personnel.

The military is well-equipped, with state-of-the-art technology and advanced training programs.

The Emperor's orders are clear: readiness for war is the top priority. The nation is united, and the preparations are underway.

The Austrian government has also announced measures to ensure the nation's defense, including the mobilization of reserves. The military is ready, and the nation is united in its commitment to defend its borders.

The military academies are preparing the next generation of officers, ensuring a strong and capable military force for the future.

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The bishops are prohibited from resorting for their anointment and institution to Rome, and pay only one-fourth instead of a whole year's income as the price of their beneficed bull from the pontiff. The whole clergy are liable in common with their fellow-citizens to taxation and taxes, and also to general jurisdiction and all rights of sanctuary have been abolished. The value of the property belonging to the national church is estimated at 19,000,000 sterl. The regular clergy and their establishments, independently of the members of the East, have not a constitution of 261 abbots, and 184 priors, Hungary alone possessing 147 of the former, and 166 of the latter; 8 endowments for duxes, and 6 for noble spinetars; 526 monasteries, and 119 nunneries, in various religious sects of the Church of St. Basil, are in union, and 3 of Mechatrises for the Armenians in union with the national church. The members of these institutions are at present required to employ themselves on some work of temporal or spiritual usefulness, such as the care of souls, education, attendance on the sick, &c.; and we may cite as an instance, that the order of Charitable Brothers alone had, in the year 1926, admitted no less than 16,542 patients into the 75 hospitals under their care. The order of Jesuits has been restored to late years, but subjected to the control of the diocesan bishops, and restricted in its functions to the education of the younger laity. Six years ago they had four colleges in Galicia, and one in Gritsa. From time to time, however, such drills as are not regularly used, and their active priests are suppressed, and their funds are appropriated to benevolent purposes. In conclusion, we should add, that Lichtensten computes the number of males attached to the secular clergy in Austria to be 56,000, and states them to be proportionately more numerous in the Italian provinces. The united or Catholic Greek Church has one archbishop at Lemberg, and five bishops, namely, at Premsay, Munke, Grodno, Kovel, Kreus, and Rakow, and twenty-six and sixty-six archbishops in Transylvania, 2467 deans of souls in Galicia, and 787 in Hungary. The primitive Greek Church is under the superintendence of its own archbishop at Carlowitz, which is in unison with the supreme court of appeal for the members of his communion in that town; he has ten bishops under him, whose sees are Arad, Paskad, Okf, Venz, Bacca, Transylvania (residence at Hermannstadt), the Buckowine (residence at Csernovitz), Dalmatia (at Sebenico), Carlsstadt, and Teherovar. These prelates have been lately admitted to seats in the Hungarian legislature. The members of this church appear to be on the increase, at least in Hungary, where it possesses 200 churches, and in Transylvania, which has 931; and in the Military Frontier districts, 374. The regular and secular clergy are in number about 4000. The rights and liberties of the Protestant Church are founded on the toleration promulgated by the Emperor Joseph in 1784, confirmed by Leopold I., and solemnly recognized by the present emperor. This edict entitles the Protestant to the full and free enjoyment of his tenets and private religious practices throughout the Austrian dominions, and the privilege of church can be exercised unless the congregation be composed of 100 families at the least. The members both of the Lutheran and Reformed-Lutheran persuasion in the German and Galician provinces are subject to temporal jurisdiction, and do not bear the local superintendence of the Reformed Church is subordinate; there are likewise four independent superintendencies for each in Hungary, and one for the Lutheran in Transylvania. The Lutheran churches in Galicia, of which 451 in Hungary, and 286 in Transylvania, and 2035 of the Reformed, of which 1384 in Hungary, and 286 in Transylvania, form the organizations of the Protestant communities in those two provinces is to be traced to the extended immigration granted to the Hungarian Protestants by Leopold II., and the unlimited freedom of conscience and worship, as well as equality of civil rights, conferred upon the Protestants by the states of Transylvania, and the period of their residence in those countries, as it is observed, are the only portions of the empire which possess constitutional legislatures. The number of the ministers of both communions is estimated at 8400. The Unitarians of Transylvania are the only members of that creed in Austria; they enjoy a community of privileges with other Protestants in that principality; have a consistory, general synod, and superintendency at Klausenburg, and 164 places of worship. The Jews are mostly of the Talmud sect; the minority, of the Karaites; they have in Galicia 294 synagogues, a species of college at Wysznik, and liberal schools at Lemberg, where they have forty-two synagogues, in Moravia fifty-two, and in Bohemia fifty-nine, besides a seminary and twenty-co schools. As to education, there are three head boards of studies: one at Vienna, for superintending and controlling whatever concerns the business of education in every province but Hungary and Transylvania; a second at Ofen for the former; and a third at Klausenburg for the latter. This board also includes the procurators of the universities. The various provincial authorities, in conjunction with the clergy and consistories, act under the immediate sanction or direction of those boards. The same system obtains with regard to the Greek and Protestant schools, though it is to be conceived that the state of the latter is not likely to have been improved by subjecting them to the visitation of Roman Catholic deans and episcopal consistories. A director is appointed for every branch of instruction to every province and academic district. He is assisted by a pro-director in matters of external, and by two or more clerks of religious discipline. In the universities, both are entrusted to their own magistracy. The lower class of schools are subject to the inspection of the local clergy at each spot, of which the的效果 are under the superintendence of the bishop; and the general superintendence and conduct of all matters connected with education is in each province carried on by its own local government. The general descriptions of schools are as follows:—1. national schools, which exist in every county, and are open to all ages; and head schools, each of three classes for pupils, in most cities and market towns, for educating youth intended for handicrafts, mechanical employments, &c. These are in each province, and each county, divided into classes according to the condition of practical knowledge, with three classes in each, to which youth intended for the higher branches of the arts, commerce, the station of surveyors, &c. resort. Independently of Hungary and Transylvania, the whole number of national schools is 24,921, and they are attended by 1,993,523 pupils; they are conducted by 33,853 masters and teachers, being on an average about one to every sixty pupils, whilst the pupils in these schools alone are, relatively to the whole population of Austria, excepting always the two provinces before-mentioned, in the proportion of one in about every ten inhabitants. The only certain information we possess on the subject of the national schools in Hungary is, that in the year 1810, they had a second demand for money, but they did not amount to more than 5600, but that at this moment no village which can afford to pay a master is without one. Besides these schools, the academies for the worship of God, and the Lower School in Vienna, Prague, Milan, and four other towns, educate about 1000 pupils. 2. The Classical Schools consist of gymnasia or grammar schools, including ordinary land-gymnasia of five, and Lyceums and university-gymnasia of six classes. The latter, in the larger towns in Hungary, are termed archi-gymnasia. The number of these schools is 237, of which there are 93 in Hungary alone; the remaining 154, spread through the other provinces of the empire, are conducted by 284 masters and teachers, and instructed by about 88,000 pupils. Most of these gymnasia are in the hands of the Catholic superintendence of the Piarist order of monks, or "Patres scholares parum," or, more popularly as respects Hungary and Transylvania. Many have laymen as professors, but no foreigner is admitted to teach; and the Benedictines, Franciscans, and other monastic federations in various parts also have gymnasia, but they are bound down to a certain prescribed system of instruction, and the greater portion of the books used in them is furnished by the printing patent of St. Anna in Vienna. The students are supplied by the progeny of families, grants from ecclesiastical and other sources, and public contributions in the way principally of stipends for poor scholars. The higher classes of an studies is open in the nine Austrian Universities established in Vienna, Prague, Padua, Prague, Olmuz, Lemberg, Pest, Ingark, and Graz. The Lyceums also consist of lower classes that likewise form branches of instruction in several of the Lyceums. On the whole, the former is taught in 34 establishments, and by 334 professors, to about 7200 students; and divinity...
...in 58, imposing of ecclesiastical and monastic seminaries, by
83 schools for about 5000 students. The students in law,
of which there are 57 professors, amount to about 3200; and
the students in medicine and surgery, for which there are
schools in Linz, Salzburg, Leoben, Klosterneuburg, Linz,
Triest, Zurich, and Carlsruhe, besides those at the universi-
ties, amount to about 4310, to which instruction is given by
149 teachers.

3. Special Institutions are also established for particular
branches of knowledge and separate classes of the commu-
nity. Such are the Technical Institute at Vienna, where
about 900 students; the Technical Institute in Prague, with
about 400; the Joanneum or Technical Institute at Gritz,
with 250; the various medical and other schools for the
nursery, as already enumerated, the Equestrian Academy
in Vienna, for about 50 students; but the institution for
industry, in the same capital; the school for the Greek
language at Vienna; the Imperial Mining Academy at Scemnitz;
the Agricultural Seminary at Ungersch-Allenberg; the Nau-
tical School at Triest, &c. There are also academies of the
fine arts in Vienna, Prague, Venice, and Milan, and con-
servatories of music in the same as well as other towns.
The number of societies for the promotion of the arts and
sciences and agriculture in various parts of the empire, is 33; amongst
them we particularly mention the latter of the Leopolds-
berg, and the Fine Arts, at Vienna, with sections at
Padua, Venice, and Verona; the Society of Agriculture in
Venice; the Imperial Societies of Art and Science, and of
National Economy, in Prague; the Society of Husbandry
and Agriculture in Prague and Vienna; and Agricultural and
other national objects in Moravia and Silesia.

The greater part of these institutions are well supplied with
libraries and scientific collections. Of public libraries there is
no deficiency; the most deserving of mention are the Imperial
Library in Vienna, with 600,000 volumes; the Imperial
and the University Libraries of 130,000 in the same capital,
and 100,000 in Prague; the Ambrosian, of 90,000, and
that belonging to the college of Brera of 60,000, in Milan;
the Imperial Library in Prague, of 50,000 volumes; and the
Theresianum in Vienna, of about 70,000 volumes each;
and the Pesth University Library of about 100,000. The
number of museums and cabinets of science and the fine
arts, both public and private, is very considerable; they
abound more particularly in Vienna, Milan, Venice, Prague,
and Pesth. Of the 23 botanical gardens in Austria, 10 are
in Vienna or its vicinity; and that at Padua, which was
established in 1533, is said to be the oldest. The 9 Austrian
observatories are those of Vienna, Milan, Padua, Gritz, Karlsruhe, Regensburg, Krakow, Olomouc, and Prague.

The liberty of the press is restricted by a censorship, which
is intrusted to the police department, and officially
collected to the prohibition of such publications, or articles
in newspapers, as are calculated to excite the spirit of
as a form of correspondence, or as a matter of state.
It is illegal for any subject of
the crown of Austria to print a work not previously examined by
the censors in foreign parts; the title of a book requires an official sanction; and even such works as have
received an impression under any preceding reign, require
to be approved de novo before they can be reprinted. In
such a state of the press, the number of political journals is
of course as incomparable as their character and influence
are insignificant. Letters of science constitute, therefore,
the great refuge of the reading public, and afford employment and support to more than 80 periodical works. We learn from Lichtenstein that the
number of authors is above 3200, and that of the yearly public
books exceeds particularly the number of the present century.

The principal seat of the linen manufacture, or rather
of those productions in which flax and hemp are employed, is
Bohemia, Moravia, and Silesia, which furnish the finest
articles of this description in Austria, though in diminished
quantities compared with those of the present century. For variety and goodness of manufacture, the
states of Lombardy and Venice deserve to be classed in the
next rank to those three provinces. The Tyrol, Hungary, Greece, and other countries which produce the
flax and coarser species of linen; nor is there much beyond what is termed house-linen made in the Archduchy, Illyria,
or the Military-Frontier districts. Of linen alone, and exclu-
sively of considerable quantities of cambric and similar fine
articles in the Tyrol, we have received less than 30,000 yards;
the average annual quantity manufactured in all Austria, be-
tween the years 1824 and 1827, was 190 millions of ells
(92,500,000 yards); of cordage, linens, and other twisted
articles, 4,800,000 ells (4,100,000 yards); and of hemp
and twine, 90,000,000 (76,900,000 yards.) The average
value of this particular class of manufactures for the interval
between 1829 and 1836, was 4,404,235 gulden (about 418,400L)
per annum; and after deducting all licenses, &c., imported,
about 383,700L. In 1839, 283,291L. was paid in sur-
charges of flax alone in Austria are estimated to give em-
ployment to 750,000 individuals, and its native manufactures
to yield sufficient not only for domestic use, but for partial
exportation.

The largest manufactures of woollens, both cloth and
other kinds, are established in Moravia and Bohemia; those
in the former province have, it is true, declined in more re-
cent times to the extent of one-third of their former pro-
duction; but the industry is infinitely more extended in
the latter, on the other hand, made amends for this decline. These
products in both countries are said to be as much dis-
tinguished for their excellence as for their variety. In the
other parts of the empire, where this branch of industry is
proportionally pushed to a much less extent, the principal
articles manufactured are of middling and coarse quality,
whilst the finer sorts, so far as their domestic consumption
requires it, are of Moravian and Bohemian fabric. Consi-
derable quantities are also exported. Statistics,
like the woolen manufacture employ at least 320,000 Aus-
trian hands; and the crown has given no small impulse to it by erecting new factories, and making the most liberal
allowances, which among which that at Linz, which employs 10,000
spinners and weavers, is peculiarly deserving of mention on
account of the beautiful cloth, carpets, &c., which it produces.

The silk manufacturers have been rapidly extending in
Austria since the introduction of the late celebrated M.
Jacquart's machinery. They are principally carried on in
the province of the Lower Enns, at Vienna, and in other parts,
where above 600 establishments furnish occupation to
between 150,000 and 170,000 workmen; and in the
Milanese and Venetian territories, where the spinners and
manufacturers of Milan, Bergamo, Venice, and Milan,
&c., employ about 50,000 hands. Tyrol also, particularly at Roveredo, the silk manufactures are of considerable importance; and there have been times
when this province has turned above three millions sterling
per annum into the national exchequer. There is a
manufacture in Hungary, Bohemia, Moravia, Styria, and other
quarters. Two years ago it was computed that the silk manufactur-
ers of Austria consumed nearly nine million pounds weight
of raw material, the whole of native growth; and that the
weight and value of the silk exported to foreign markets
were 2,600,000 lbs. and 1,100,000L respectively.

What has been said of the prosperity of the preceding
branch of industry will not apply, we are informed, to the
cotton manufactures. Those connected in them have not
been able to compete, by the cheapness of their fabrics,
the low prices of the English makers. Hence the Aus-
trian establishments, if not in a course of positive decay,
are in a stagnant and precarious state. The Lower Enns
produces particularly the silk of Austria, in the manu-
facturing of the thread, weaving, knitting, or printing. Vienna
takes the lead in the choicer description of cotton cloths, such as
muslins, fine prints, &c.; and the whole province, some few years
since, possessed above 3000 manufactures, large and
small, about 200,000 or 300,000 hands employed. In the
Upper Enns, Bohemia has likewise considerable
spinners and cotton manufacturers, particularly in the
circles of Leitmeritz and Elbogen; they exist to a much
greater extent than in Moravia, and in Venice, Triest, and
Venice, and other provinces. In fact, the whole yearly
produce of the cotton manufactures of Austria, which are
estimated to find employment for upwards of 400,000
hands, is not sufficient to supply the domestic consumption.

The province of Lower Enns manufactures, as usual, the
manufacture of leather, of which the best qualities are
made in Vienna. The Upper Enns, Moravia, Styria, Bobe-
millia; and the Tyrol rank next in importance. Hungary 
abounds in tanneries; and in fact nearly every province 
in Austria is engaged more or less in this branch, though 
its produce has hitherto proved so inadequate to the demand, as 
to render a considerable importation of the raw material 
necessary. In the latter importation amounted to 2,100,000 
groschen (about 140 millions)

In a former page we gave some details on the subject of 
the raw iron raised in various parts of the empire. 
The article, in a cast state, is principally supplied by Bohemia, 
which supplies the greater part of the iron consumed in 
Austria, for the government possess works near Mariägel, in which 
cannon is cast; Hungary, Illyria, and the Buckowine. 
Iron and steel, in bars and sheets, both rolled and ham- 
ered, are produced in large quantities in the Lower 
Danube district, where 700 and 770,000 marks of remarkably fine 
quality, besides the copper descriptions, are annually made; 
Illyria, Carinthia, and Bohemia are also considerable manufacturers 
of the article; and here and there an iron-work may be met 
with in Moravia, the Upper and Lower, and at Mivelin, 
and Dongo, in the kingdom of Lombardy and Venice. 
Iron and steel wire are made in most provinces, but more parti-
cularly in the Archduchy. Manufactures of nails are numer-
ous; the best are made in Styria, Carnithia, the Arch-
duchy, and Tyrol. Of the many other manufactures, it 
almost seems to say, is so abundant, that many 
works are thrown out of employ in time of peace. 
The crown-works for the supply of swords and muskets are prin-
cipally situated in Vienna, at Murzsteg in Styria, and 
Hradec in Bohemia, and the greatest factories in these 
parts of the kingdom. Most of these, besides the 
which most of these all metals are converted are pro-
duced in such quantities by the Austrian manufacturers, 
that a surplus constantly remains for the partial supply of 
other countries.

The manufacture of copper, both in sheets and other forms, 
is most extensively carried on at the crown-works near 
Celkowa, in the Hungarian Banat, and two other 
large works in Hungary; in Bohemia, the Archduchy, 
and Styria. That of the manufacture of nails, is fairly 
principally established on the same spots. Achenrain, 
in Hungary, has a cannon foundry, and that kingdom abounds 
in button manuf actories. Tin is the produce of Bohemia 
only; and lead is raised or most extensively made into 
shot, both in Hungary, Illyria, Styria, and 
and in the provinces of Carnithia, Hungary, Galicia, and 
Transylvania. The principal manufactories of shot and 
shot are in Vienna and Chiesie, and in the province of 
Carnithia. In the manipulation of gold and silver, no province 
fares so well as those parts of Bohemia, Prague, Pesth, 
and Vienna.

Among the other productions of this monarchy, we may 
notice that tobacco is a monopoly engrossed by the depart-
ment of finance in every province; but Hungary, 
Bohemia, Styria, Carnithia, and the Tyrol; and that the manufactured article 
published in the eight government works (at Milan, Venice, 
Ragus, Hamburg, Nurely, Gdine, and Wir-
stenfeld) amounts to between 6,000,000 and 22,000,000, 
per annum, exports of about 45,000 individuals, and we are told 
that, in 1830, the quantity sold produced a profit of more 
than ten millions of florins, or about 9,000,000.

There are private manufactories in the three provinces to which this 
misery does not extend. Of seed-oil, though the produce 
very considerable in all quarters, is not manufactured 
for the consumption; the deficiency is therefore made 
good by importation to the extent of 250,000 or 300,000 
per annum. Large quantities of olive oil are also obtained from the 
shores of the Adriatic, and particularly in the 
neighbourhood of the Lago di Garda, Illyria, and Dalmatia. 
The manufacture of paper employs a supply of 400 mills, of 
which Bohemia possesses about 100, and Lombardy and 
Venice about 150, but the supply of paper is not to be equal to 
the demand, and when it is added that the estimated 
value of the supply does not exceed 2,000,000 guldens, or 
about 180,000.

The number of glass works is about 250, and of looking-glass manufactories 12; the quality of 
the latter article produced in Austria is considered equal 
in quality to any in other country. The exports of glass 
vary from 210,000,000 to 250,000,000 guldens. In conclusion, 
we shall add, on Lichtenstein's authority, adopted both by 
Stein and Malchus, that the number of manufacturers 
employed in making the glass in Austria, of foreign 
manufactures imported from other countries, is estimated 
at 2,645,000, and the yearly value of their productions at 1,415

millions of silver currency, representing a sum in British 
sterling of upwards of 140 millions.

With respect to external trade, no country of equal extent 
is perhaps more disadvantageously situated; its line of 
coast is comparatively incomparably, and, with the solitary 
provinces of the Prussia and Austria, its most streams, such, as, 
for instance, as the Danube and Elbe, lie, even when crossing 
its frontiers, at a considerable distance from the sea. 
There is another circumstance, too, which cannot fail to 
operate most prejudicially on its external commerce; the system 
of administrative division which, whereas all the 
territorial surface, and, what is more to be despised, over 
the richest and most productive portions of it, we refer to 
Bohemia, Hungary, and Lombardy and Venice in particular, deals 
with them almost as if they were foreign countries. The 
natural consequence of this must 
ent the Austrian dominions from assuming that rank in 
their commercial relations with other countries, to 
which their position in the centre of civilised Europe, the variety 
of produce and excellence of their innumerable 
atoms, appear to give them so undeniable a claim. Their marine 
commerce, which is confined principally to the Mediter-
ranean, centres in the ports of the Adriatic, and does not 
employ above 30,000 vessels, even including the craft 
which has the name of marine, on the top of which, are Venice and Thess, which have been declared free ports, as 
well as Giusse, the channel of export for the growth and manu-
ufacture of Hungary. Besides these, Illyria has some trade 
in the harbours of Ravina, Capo d'Istria, and Foia; the 
trade with the principal coast towns in Asia Minor is 
Chios and Dalmatia in those of Ragusa, Cattaro, Zara, 
Sebenico, Spalatro, &c. We are not otherwise informed 
of the amount of shipping owned by Austrian subjects in these 
countries, but about 5,000 vessels, of which 2,855 belong to Dalmatia, 
and 575 to Istria; and that in 1826 the number of merchant- 
ships so owned, between the burdens of 100 and 500 tons, 
is said to have amounted to 1,000. With a view to promote 
the free traffic with foreign countries, the state has for a 
number of years, for the purpose of inviting foreign 
trade, annexed the privileges of nationality to the productions 
of the interior, and has thus added to the vast trade among 
the various apperances of the empire, and in most parts by 
good roads. No towns enjoy so large a share of this trade as 
Venice. Provisions, Turkey, Tobacco, Bots, Mihan, 
Brescia, Bergamo, Semol, and Dalmatia.

Blumenbach tells us that a considerable number of vessels 
is employed in navigating the Danube, many of from 12 to 
150 tons, and, below Komorn, even of 450 or 450 tons burden. 
The interchange on the Italian lakes is likewise consider-
able; of which he instances that on the Lago di Garda, 
where more than 400 vessels of the larger size, independent 
ity of banks, &c., are actively employed. All articles of domestic 
produce may be exchanged between province and province 
upon paying the frontier duties, which are not heavy, and 
where not fixed otherwise, are usually equivalent to a 
minority of the duties payable on similar articles of foreign 
production. Among the articles, of which the imports 
are chiefly exhibited are all woolen, knit, and worsted 
manufactures, spurious metals, and certain articles of 
food. The export of ashes, raw flax, hemp, with the resins 
attached to them, and of unworked gold and silver, is prohibited.

In the times immediately succeeding the Christian era, 
the Romans found the road of the Archduchy of Austria which is at present called the 'Provinces below the R.,' in which Vienna itself is 
situated. But they found here no hospitable natives not 
united people to encounter; the land was occupied as separ-
ate hunting grounds, the seat of many warlike races of 
whom the Panonii, Buc, and Norici occur most frequently 
in the Roman annals. Over such a race triumph was 
easy; a state of dependance quickly succeeded to a condition 
of freedom; and thus the introduction of military order 
on the Danube part of the Roman line of defence, without 
the barbarous hordes of the north, was succeeded in the
year 23 by the incorporation of this tract of country with the province of Pannonia. Noricum then supplied the Roman legions with fierce and hardy soldiers. In the fourth century, when the north poured down its hordes upon the south, the middle regions of the Danube fell a prey to the spoilers who scattered through them thousands of marauding prey. The agriculture and industry which, under the sovereignty of civilized Rome, had covered Noricum with towns and villages, gradually disappeared under the successive invasions of Rhadagastus's multitudes, Alaric's 275 Silence, and Euric's 269 Folly. In 493, a invading force led by the 'Bosur of God,' at four different periods traversed and devastated Illyria and Noricum. The succeeding century brought rest with it; a new horde of plunderers from the frontiers of the vast wilderness of the north, and it pitched it down as a receptacle for the cattle and the other spoils of which they stripped the adjacent countries. Its name now merged into that of Avaria, and the Avarice, from whom it was derived, held possession of it until Charles the Great, having been led into these quarters after defeating the Hungarians back upon the Raab, in the year 796 reduced the country between that river and the Enz to subjection, and set Margraves over his new conquest, as the 'Oester-reich,' or eastern marches, of his empire of his ancestors. His conquests in the possession of the counties of Babenberg, one of whom, Count Leopold, made it hereditary in his family in the year 914. Frederic I., after uniting the land above the Enz to his dominions, to the poor inhabitants in the event of a difference from this time until the year 1246 it remained in the possession of the house of Babenberg, who enlarged it by the acquisition of Styria in 1186. The line becoming extinct by the death of Frederic II., Ottokar, king of Bohemia, took possession, and so made it a part of the former possessions of this large and powerful house, and of Carniola and part of Friul, which fell to him by right of inheritance; but in his struggle to maintain his conquest against Rudolph of Habsburg, emperor of Germany, the latter expelled him from the Austrian territories in 1267, and having asserted his supremacy in the following year, made the kingdom of Carniola a part of his dominions, his acquisition of the sovereignty, as an appendage to the Habsburg possessions. His posterity, ever extending the limits, extended their dominion over several other states, which they acquired either by marriage, purchase, or inheritance; among these the house of Burgundy, in Styria, acquired in 1283; Carniola, in 1331; the Tyrol, in 1363; Friul, in 1369; and the land-grant of the Breisgau, in Swabia, in 1307. From the middle of the fifteenth century, or, more accurately speaking, from the year 1437, when Albert I. was raised to the dignity of King of the Romans and Emperor of Germany, this high office has been uninteruptedly enjoyed by the Habsburg line of Austrian sovereigns. For a brief interval, during the first half of the fifteenth century, the sovereignty was divided among the descendants of the Austrian princes, Albert V., who married a daughter of the Emperor Sigismund. From this period the influence and power of Austria increased with great rapidity. In 1477, the marriage of Maximilian I., Frederic III.'s son, with Mary, only daughter of the house of Burgundy, brought him the valuable accession of Alsace and the Netherlands to his German possessions, which, it should here be observed, had been protected from dismemberment by the establishment of the princely personage at the court of 1186. The marriage of his eldest son, Philip, with Johanna, only daughter of Ferdinand and Isabella of Spain, for a time invested Frederic's grandson, Charles V., with the united sovereignties of Spain and the Indies, the Netherlands, and the northern part of Germany; but the treaty of 1498 was concluded in 1511 and 1540 dismemed this gigantic monarchy: the Spanish and Netherlands' dominions being retained as a joint possession by Charles, and his Austrian inheritances relinquished in perpetuity to his brother Ferdinand. The marriage of Charles, after his return from the war of the succession in 1557, with the daughter of Louis II. of Hungary, who died without heirs male in 1558, became possessed of her extensive inheritances, which was composed of Hungary, Bohemia, Moravia, Austrian Silesia, and Lusatia. The ancient possessions of the house of Habsburg, who had been possessed of it from the time in which the ancient nations of Austria, the Lech, the Danube, in 1718, which united the Netherlands and certain

AUSTRIA, ARCHDUCHY OF. [See also PROVINCES OF AUSTRIA.]

AUTHENTIC, in music, a term used in the ancient ecclesiastical mode of notation (see Mode), but utterly unknown in modern music, whether sacred or secular. Almost every writer on the subject attempts to explain
the word thus:—when the octave is divided harmonically, as in the proportion 4, 4, 3,—that is, when the fifth is below and the fourth above, e.g.

then the mode is called authentic. When the octave is divided arithmetically, in the proportion 4, 3, 2,—that is, when the fifth is above the fourth, e.g.

the mode is then called plagal. [See Plagal.]

Dr. Pepusch throws more light on the matter than any writer whom we have consulted. He says, 'When the fugue is in the fifth above or below, or in the fourth above or below, then one of the parts is in the authentic mode, the other in the plagal mode of the key we compose in.' Handel's chorus, 'He trusted in God,' in the Messiah, may be offered as an example of this, where the subject is in the authentic mode, the answer in the plagal mode. But, as we have before observed, the term is now entirely disused, even by writers of fugues and canons, and only introduced here as some aid to those who may encounter it in the fixed writers or music.

AUTHENTICA, a barbarous Latin version of the Novella of Justinian, so called by early writers on the civil law, from its being a literal translation from the original Greek. (See Ducange, Gloss. ad verbaem.)

At the Feast of Fasts, as it is commonly termed by foreigners, AUTO-DA-FE', was the public and solemn reading of extracts from the trials promoted by the Inquisition, and of the sentences pronounced by the judges of that tribunal. At this form or act the offenders themselves were present, or in case of their death or unavoidable absence, their bones or effigies were substituted for them: there also were present the civil authorities and corporate bodies of the town where it was performed, particularly the council, whose business the offenders were delivered, that he might inflict upon them the punishment prescribed by the laws; the fire, gallowes, and executioners having been previously prepared by order of the inquisitors. When this execution was performed with the highest pomp and ceremony, it was called auto publico general, general and public act. There was also an auto particular, private act, at which the inquisitors and criminal judges only were present; the castillo, held in the halls of the Inquisition, in the presence of such persons as the inquisitors invited, and of the minister and judges of the tribunals alone; and, finally, the auto singular, held in the church, or in the public square, against a single individual. The following is the description given by Olmo of the auto publico general celebrated at Madrid in 1595:

King Carlos II. having signified his desire to witness and add solemnity by his presence to one of these spectacles, the inquisitor-general, who was then Don Diego Sarmiento da Vallaladres, bishop of Oviedo, knowing that the prisons of Madrid and other places were crowded with culprits, appointed Sunday, the 30th of June, for the celebration of a general auto-de-fé. The king gave orders to provide the necessary funds for the removal of the prisoners to the court in the course of that auto-de-fé. The civil authorities and corporate bodies of the town, and likewise the familares and officers of the tribunals, having been invited to attend, a procession was formed, consisting of 150 officers of the tribunal, all mounted on horses richly caparisoned, and accompanied by a military band. With this parade the auto was announced on the 30th of May, first at the door of the inquisitor-general, next before the king's palace, and afterwards in all the public places of the town. The following morning the implacable authority of the town of Madrid was by word of mouth informed that the holy office of the Inquisition of the city and kingdom of Toledo will celebrate a general auto-de-fé on Sunday the 30th of June of the present year, and that all those who shall in any way contribute towards the prevention of, or be present at, the said auto, will be made partakers of all the spiritual graces granted by the Roman pontiff. With this encouragement such energy was exhibited by everybody, that the amphitheatre was begun on the 23d and completed on the 26th of May. Not fewer than fifty master-builders, with their workmen, went to offer their assistance, and laboured incessantly, stopping only the necessary time to take their meals, and joyfully exclaiming in the middle of their toil. 'Success to the Faith of our Christ! All shall be done in due time.' If materials should be wanting, we will pull down our houses to supply what is necessary to accomplish so holy a purpose!' The amphitheatre was erected in the Plaza Mayor, or Great Square, and was 190 feet long, and 100 wide. It was elevated thirteen feet from the ground, and contained two magnificent thrones. Under the scaffold of the tribunal were eight rooms, some of which were destined as prisons for the culprits, others for dinner and refreshment, one for the preacher, and another for the priest who performed the mass. Under the northeast of the scaffold were other apartments for the inferior ministers, and where the criminals might take some refreshment in case of their fasting or meeting with any other accident during the ceremony.

On the afternoon of the 28th a troop of the soldiers of the faith proceeded from the tribunal to the Plaza de Arriba, where the marquis of Ugena, the mayor of Madrid, had caused a number of bundles of wood to be prepared; and by so doing it had been fixed in the brains of the populace that they went to the king's palace. The captain of the troop presented the king with a bundle, which he carried on his shield, richly ornamented and decorated with ribbons. Carlos having shown it to his queen, returned it to the captain signed with his name, and told him his duty was to have it placed near the altar, and a bundle to be put in the braziers, or burning-place. The company then proceeded to the aula, which was built about 300 feet from the gate of Puencorral, towards the right of the road to the village of that name. The braziers were a piece of white marble, and were placed in the plait square; it was elevated seven feet from the ground, and sufficiently capacious to contain conveniently the culprits, the executioners, and the monks appointed to offer the mass in the presence of the religious. On the evening before the day appointed for the auto, the prisoners were removed from the houses of the inquisitors, where they had been placed both for want of room in the prisons of the tribunal, and to keep them separate from one another, to the prison of Inquisition, where they were, having separated those who were to suffer the capital punishment, the deacon of the inquisitors, accompanied by several monks, delivered to each of the victims the following address:—'Brother, your process has been examined by persons of diverse grades and of divers condition, and to you is now given the capital of the high and noble; of such a nature, that if you do not acquiesce in the sentence of death, you can only escape it by dying, and only by death you can escape it. To-morrow you die. Prepare yourself as you ought: for it is the last time that you shall be near with your friends; the trial of the tribunal was sitting all night to hear the recantations of such of the culprits as might repent and confess.

On the following morning, at seven o'clock, the procession moved from the house of the Inquisition in the following order:—The soldiers of the faith led the march; the cross of the parish, covered with a black veil, and attended by two priests in surplices, came next; then followed 120 victims, of whom fifty-five were religiosos, or condemned to the fire, thirty-four in effigy, and twenty-one in person. Some of the effigies were in their habitual garments, others in those of those whom they represented, and others their heretical writings. Of the religiosos who appeared in person, twelve had gags in their mouths, and their hands tied. All were accompanied by monks. The last came the officers of the Inquisition, in the midst of whom were two magnificent processions, the congregation of San Pedro Martir, each bearing a banner covered with gold cloth, containing the trials of the culprits, were followed, a considerable number of familiars, the clergy and other seamen, with the body of the inquisitor. This guard was commanded by the Marques of Malpaga, who marched at the head of it upon a horse magnificently caparisoned. The procession having reached the
aut

ampitheatre, the criminals were paraded before the king and the royal family. A solemn mass then began, and a sermon was preached. After dinner, the witnesses, the officers of the Inquisition, and the viceroys of the parishes, were delivered to the civil and military authorities, and the sentences were read. All these ceremonies lasted till four p.m. One of the secretaries of the Inquisition, called the secretarius generalis, pronounced the sentence of death. The criminals were then delivered to the civil officers, saying that he delivered the persons of those criminals into the hands of the secular judge, praying him most earnestly to deal mercifully and kindly with them. They were accordingly conducted to the Tower of Spain, where they were delivered to the soldiers of the faith. Behind them were the civil officers and executioners. The secretaries of the Inquisition followed behind the procession, and attended the execution. The sentence of death had been read and punctually executed.

When the victims arrived at the bracero, the penitent were strangled and then burnt, and the impious were cast into the fire. Some of the latter threw themselves boldly into the flames, and it seems that this act of courage produced some favourable impression on the minds of the spectators, for our author endeavours to warn the unconscious against the danger of taking for a proof of valour what was nothing else than a brutal and culpable act of death. The execution lasted until half the night. The penitent, after the ceremony had been accomplished, was a witness, and an officer of the Inquisition, of this horrible festival. In the different autos-de-fé which have been celebrated in Spain, from the first which took place at Seville in 1491, to the abolition of the tribunal by the cortes in 1812, no less than 34,991 victims have suffered various punishments. The last autos, according to Llorente, was the auto singular, celebrated in December, 1815, at Mexico, against certain ecclesiastics named Morellos, accused of heresy. He was absolved from the charge of heresy, but was afterwards hung by order of the viceroy for high treason, as being concerned in a plot to effect the emancipation of Mexico from Spain.

(See Olmo, Relación del Auto General de FÉ, celebrado en Madrid, en 1690; Llorente, Historia Crítica de la Inquisición.)

AUTOGRAF, from the Greek autographo, written with one's own hand, an original manuscript; the handwriting of any person.

This word, in relation to manuscripts, is used in opposition to an autograph, or copy.

Collections of autographs, as the handwriting of individual persons, had their origin about the middle of the seventeenth century, not only for the sake of beauty, but necessity. In the absence of copies, especially persons who travelled, carried about with them white-paper books, to obtain and preserve in them the signatures of persons of eminence, or new acquaintance; who would such a book received most generally the name of Album; though it was sometimes called Hortus, or Thesaurus Amicorum. Persons who travelled, it is to be observed, showed, by such means, what sort of company they had kept. (See the facts mentioned in Isaac Walton's Life of Sir Henry Wotton, 8vo, London, 1651; also Wragby's Account of the Hurlestone MS. 933, in his Catalogue.) These albums are frequently found in the manuscript libraries of Europe. Several are preserved in the British Museum, and some are adorned with splendid illuminations. (See Sir Egerton Rudge's English and Foreign Manuscripts, as early as 1576, and appears to have belonged to a lady: others will be found in the MSS. Sloane. 2035, 2360, 2597, 2413, 2414. There is one also in the same repository, preserved in the library, which belonged to the Rev. Mr. Thoresby, evidently made for King Charles the First, with whose and his queen's monograms and signatures it opens.

' 1658. Sæviae subsumere, subjicere a rationis, Carolus. R. ' Eia Dora est man esperance, Henriette Marie. R. The other initials are not always legible. Ruggins and Sartor have collected a few autographs of kings, princes, and foreign persons. There are numerous, all upon paper, but with alternate leaves of vellum, bearing rich illuminations of the arms of the respective persons, inserted. Amongst them are the signatures of Various persons, connected with the Court of Derby, afterwards the celebrated defenders of Lathom House.

The album of the symon of Dort, A.D. 1618, 1619, is still extant. It was collected by John Bibbies, or Dibbies, the pastor of the church, and is at present in the possession of Dawson Turner, Esq.

The earliest of these autographs of England, now known, is in the small figure of a cross, made by the hand of King William Rufus, in the centre of a charter, by which the manor of Lambeth was granted to the church of Rochester. The charter is preserved among those which were bestowed by the King. It refers to the time of the surrender of Brest, among the Cottonian manuscripts. In time the royal signatures of England continue in uninterrupted succession.

The sentence of death was read at the signing of Magna Charta, which really means the sealing: a signature at that period was not the authentic attestation of an instrument, or even of a letter.


This form of writing, perhaps the most easily distinguished by their writing; and that the vivacity and variability of the Frenchman, and the delicacy and suppleness of the Italian, are perceptibly distinct from the slowness and closeless of the German, Dane, and Swede; and that when we in grief were burst into tears, they did not write as we do in joy. Shenstone, in one of his letters said, 'I want to see Mrs. Jago's handwriting, that I may judge of her temper.' and General Paoli told Mr. Northcote that he had decided on the character and dispositions of a man from his letters and the handwriting. But numerous causes must always counteract or obstruct that analogy which many think the handwriting of an individual bears to his character; and none less than that close imitation which the hand of a skilful scholar is likely to bear to that of his instructor. The form and fashion of Roger Ascham's handwriting is clearly perceptible in the autographs of King Edward the Sixth and Queen Elizabeth.

In later times, collections of autographs have been formed far more extensively than those which the Germans made in the sixteenth and seventeenth centuries. There is one, though of comparatively small extent, in the British Museum, formed by the late Sir William Mason, but infinitely larger collections have been made by Dawson Turner, Esq., of Great Yarmouth, and by Mr. Upcott, late of the London Institution. Autographs have an occasional interest to the owner, to the dealer, to the publisher, to the collector, but beyond the intrinsic interest of their contents as letters or notes: they are often serviceable in verifying the hand-writing of scholars who have been busied in historical researches, or in making collations of, or commenting upon, the antient classics.

The first English work in which a series of fac-similes of autographs appeared, was Sir John Fenn's Original Letters from the Archives of the Paxton Family, published in 1787; followed by 'British Autographs,' a collection of fac-similes of the handwriting of royal and illustrious personages, with their authentic portraits, by John Thane, 3 vols. 1789 - 1791. Another work, more extensive and more correct will be found in Autographs of Royal, Noble, Learned, and Eminent Personages, compiled in English History, from the Reign of Richard II. to that of Charles II., by John Gough Nichols, fol. Lond. 1829; from the preface to which some of the preceding particulars have been derived. General Gough's Autograph Library.

AUTOLOGUS of Pitane, in Aelia [see Astronomy, p. 531], the earliest of the Greek writers on the Sphere who have perished, has left a work Σφαίραι καταγραφης. On the Sphere in Motion, and another Σφαίραι ερωται καταγραφης. His works are only worth mention as showing the state of astronomical theory among the Greeks of his time, and are fully described by Delambre in his Hist. Astr. Anc., vol. 1, p. 280, Ee. The names of Ptolemy, Carlsberg, Conr. Rauchfuss (Desyodus), Strasburg, 1572, containing, besides Autolycus, Theodosius and Barlaam. There is also Focasdel's French translation of Autolycus and Theodosius, vol. III.-X.
Paris, 1575; a Latin version (anonymous), Rome, 1669; another of Jos. Aurea, with the commentary of Mauroulyca, Rome, 1587, of the first-mentioned work only, and of the second, by the same editor, Rome, 1588; both together, with scholia, by the same, Rome, 1591; and the work on the Song in M. de Serres, De Mervenca, Paris, 1644. There are five manuscripts of Automaton in the Vatican library.

AUTOMATON, derived from two Greek words, meaning self-mover, is a name generally applied to all motion which is not the result of any act on the part of an animal.

Without pretending to describe the mechanical details, we shall give some account of the extent to which this amazing species of ingeniosity has been carried.

In the year 550 after the birth of Christ, the clock of Charlemagmf, the automaton made by Albertus Magnus to open his door when any one knocked, the speaking head of Roger Bacon, the fly of Regiomontanus, and several others, not knowing whether their performances may not have been exaggerated. They serve to show, however, that the idea of applying machinery to imitate life is of very ancient date, and that considerable success was not deemed impossible.

In the Memoirs of the Academy of Sciences for 1729, a description is given of a set of actors representing a pantomime in five acts. But previously to this, M. Camus had described an automaton group which he had constructed for the amusement of Louis XIV., consisting of a cokch and horse. The mechanism included a whip, some horses immediately set off, moving their legs after the manner of real horses. The carriage turned at the edge of the table on which it was placed, and when opposite to the king, it stopped, a page got down and opened the door, on which the prince was presented with a turf, and re-entered the carriage. The page then shut the door, the carriage proceeded, and the servant, running after it, jumped behind it. (Hutton, Mathematical Recreations, vol. ii. p. 98.)

The flute-player of Vaucanson is fully described in the Enc. Meth., article 'Androide.'

It was exhibited at Paris in 1738, where it was seen by M. D'Alembert, who wrote the above article. It really played on the flute, that is, it projected the air with its lips against the embouchure, producing the different octaves by expanding and contracting their opening: forcing more or less air, in the manner of living performers, and regulating the notes by its fingers.

It commanded three octaves, the fullest scale of the instrument, containing several notes of great difficulty to most performers. It articulated the notes with the lips. Its height was nearly six feet, with a pedestal, in which some mechanism was contained.

Two automaton flute-players were exhibited in this country some years ago, as perfect as the preceding, except (if my memory serves us) in the articulation, which we did not perceive. They were of the size of life, and performed ten notes. They repeated the figures which they saw proved, by placing the finger on any hole which for the moment was stopped by the automaton.

The automaton trumpeter of Meiselh, the inventor of the metronome, exhibited at Vienna, is thus described in the Journal des Meodes for 1889. 'We cite from a very useful work, the Dictionary of Musicians, London, Bailliere and Co., 1877.' From a tent M. Meiselh led out a marvellous figure in the uniform of a trumpeter of the Austrian dragoon regiment, his trumpet in his hand. After having pressed the figure on the left shoulder, it played not only the Austrian cavalry march, and all the signals of that army, but also a march and an allegro by Weng, which was accompanied by the whole orchestra. After this, the figure was completely changed into that of a French trumpeter of the guard; it then began to play the French cavalry march, all the signals, and lastly, a march of Dussek's, and an allegro of Pleyel, accompanied again by the full orchestra. The author was thus enabled to show the advantages of his mechanism more agreeably than that which the abbeusianer could produce from that instrument, because the breath of the man passes the inside of the trumpet a moisture which is prejudicial to the purity of the toni. The instrument never stopped its blow on the telescope only twice, and this was on the left hip.

In 1784, M. Vaucanson produced aflagoret-player who bad a tambourine with one hand. The flagolet had only three holes, and some notes were made by half-stopping these. The force of wind required to produce the lowest note was one ounce; the highest, fifty-six pounds (French). Its construction was altogether different from that of the flute player.

The same year, M. Vaucanson produced a duck, which has been considered as the most ingenious of his performances. It dabbled in the water, swam, drank, and quacked like a real duck; and the peculiar motions of the animal were very successfully imitated. It raised and moved its wings, and when it quacked, it raised its head and shook its neck, took barley from the hand and swallowed it; during which the natural motion of the muscles of the neck was perfectly perceptible. It digested the food it had swallowed, and vomited it back into the stomach.

Several other automata are described in Hutton's Mathematical Dictionary, article 'Automaton; in particular, one of M. Dea which drew several likenesses of noble characters. A machine which wrote and drew, and another which performed on the pianoforte, were also exhibited some years ago in London.

The modern chess-player is now usually considered as a solved mystery. It is supposed (and has not been denied) that a boy was concealed inside the figure. The great difficulty existed only so long as it was imagined that the player was outside the figure; nevertheless the machinery by which the hands were regulated must have been ingenious.

In looking at the preceding instances, we readers will regret that so much power of invention has been wasted upon trifles. What is Vaucanson compared with Archimedes in the estimation of posterity, in the department of the Sciences and Arts? [See N. M.]

AUTUN, a city in France, in the department of the Saône et Loire, on the river Arroux, one of the tributaries of the Loire. It is 179 miles S.E. of Paris, and 36 N.W. of Mâcon, capital of the department.

Autun is one of the most ancient cities in France, having existed before the Roman conquest under Julian Caesar. It was known under the name of Bibresata, and belonged to the Aedui, a powerful people in Gaul. Caesar (de Bell. Gal. lib. i. c. 32) speaks of it as 'by far the greatest and wealthiest town of the people and again 20 miles far from the town of Aumans' (de civ. Gall. c. 55) as possessing the greatest influence among these. It was made a Roman colony under Augustus, whose name it took, combining it with the Celtic termination duus (du), and thus forming the name Augusto-durus, of which the first syllable of the first word denoted the dynasty, and the second the people; the learned persons of this place have borne also the names Julia, Felix, and Flavius.

In the third century it suffered much from the ravages of war. Tetricus, one of those aspirants to sovereignty power (commonly but erroneously termed 'Tetricus the Tyrant'), who reigned during the period of weakness consequent on the defeat and captivity of the emperor Valerian, and the luxurious carelessness of his son Gallienus, having ascended the throne, was supported by the towns and provinces over parts of Spain and Britain, besieged Autun, and took it in spite of the vigorous resistance of the inhabitants. From the effects of this severe blow, the town was raised by the patrimony of the emperor Constantine Chlorus and his son Constantine the Great, from the Thirtieth to the Fifty-third edition, and the inhabitants were given the right of self-government, with a small share of the taxes. In gratitude to these princes, whose female name was Flavia, the town took the name of Flavia. It may be mentioned that some antiquaries have endeavoured to prove that the name Bibresata is identical, not with Augustodurus, but with its equivalent in Latin Bibrum; but D'Anville and others, whose authorities we have followed, are decidedly of opinion that Augustodurus and Bibresata were identical, and D'Anville points out the reason of the supposed difference of the name Beaura from Bibresata.

Upon the downfall of the Roman power, the town was reduced to saxes by Attila, king of the Huns, and other-
A short distance south-east of the town is a singular monument, called Pierre de Coulard. It consists of a solid mass of stone, about ninety feet high, surmounted by a spherical mass, and is about 42 or 43 feet broad at the base on each side, and about 50 feet high, including the base on which it stands. It has the four corners nearly towards the four cardinal points, and a deposit of a solid mass of stone near the base which is very hard white cement. Its origin and use are involved in doubt. Some suppose it is a monument of some illustrious Adonis. It is in the midst of what is called la forêt des orques, a vast forest of strange trees, death-giving evergreens and their funeral urns which have been discovered at different times.

There are the ruins of a theatre, and traces of the seats and arena of an amphitheatre, covered with turf, having around and under the seats small dams, the purpose of which is not clearly known. The forum is also near, and wild beasts employed in the sports of the Amphitheatre. Not far from the Theatre and Amphitheatre, but without the circuit of the antient walls, is the site of the nymphaeum, a large basin or hollow used for exhibiting the representation of a naval engagement, with the remains of an aqueduct for conveying the water to it. There are, also, the ruins of some temples. One of these, that of Janus, on the other side of the Arroux, appears to have been very magn.

In 1756 and 1759, several ancient edifices described by the rhetorician Eumenius (who lived in the third century at Autun), there are no traces now left: such as the temple of Hercules, the palace of the Emperors, and the Menian schools (Schola Meniana or Memiana), a celebrated college of antient Gaul.

A round building, not far from the supposed site of these schools, is regarded as the remains of antient baths. A square tower, called Tour de Minerve (Minerva's Tower), near the gate of the Druids (resembling in some respects the Roman temple of Minerva), already notched by the ancient Celts, is called the Temple of Cybele, is thought to have belonged to a temple of Minerva. Ruins, supposed to be those of a temple of Apollo, stand near the spot, where was the Porte des Marbres, Gate of the Marbles (one of the gates of modern Autun, pulled down in 1777). It was one of the principal gates of a temple of which is termed Le Château, the Castle, and is considered to occupy the site of the antient capitol.

The cathedral, dedicated to St. Lazare, or Lazaurus, is considered to occupy the site of the antient temple. The choir and chancel are very admired, and the spire was considered the finest in Burgundy. The side entrances of modern construction, but in it are preserved four columns, each differently but singularly carved. One represents the centurion, the two on the north half of the door,
points directed upwards, those in the other part downwards.
A second column is adorned with ribands and studs, and a
third by branches of the vine, turning round it in spiral
form, with dependent clusters of grapes. These columns
support two arches adorned with medallions, in which the
signs of the zodiac are represented alternately with the
labours of the year. Nearly all the pilasters in the church
have capitals rudely but singularly adorned. The library of
the chapter contains some curious and interesting MSS.

This church of St. Lazare does not appear to have been
originally the cathedral, but the bishop and his clergy re-
moved to it upon the destruction of the cathedral of St. Na-
zaire, or Nazarius, until that should be rebuilt. That edifice
was, however, never restored, owing to the magnificence
and extent of the plan on which the restoration was com-
menced. The chœur alone was finished, and in this the
bishop entered upon the possession of his see; so that it
was considered to be properly the cathedral. Both these
are in the quarter called Le Château. In front of the
cathedral of St. Lazare is a place or square adorned with
a handsome fountain. The second quarter, called La Ville,
(the city,) contains the principal open space (place), that of
St. Lazare, called by corruption Le Champ de St. Lazare.
It is surrounded by good houses, and being planted with
trees furnishes the citizens with a promenade close at hand.
The third quarter, the Marché, already noticed as the
Marché de Paris of the ancient city, has low ill-built houses
and narrow streets.

There are two bridges over the Arroux; one, the Pont d'Arroux (Bridge of the Arroux, just by the gate of Ar-
roux described above), is built partly on the foundations of
an ancient one, which was a little more to the northward.
The other bridge, that of St. Andoche, is lower down the
stream. Before the Revolution, Autun possessed twelve
religious houses, and, with its suburbs, was divided into
eight parishes. The collegiate church of Notre Dame,
which was founded, or at least rendered collegiate, by the
chancellor Rollin and his wife, in 1644, possesses a painting
on wood by Peter of Bruges, which is much admired by en-
thusiasts. The abbey of St. Martin and St. Jean le Grand,
or John the Great, were of considerable magnificence; and
that of St. Andoche was remarkable for the remains of a
temple of Dana, which served as the kitchen of the estab-
lishment. Two hospitals and two institutions for the
restitution of ecclesiastics (seminaries) are still among the
establishments of Autun, which appears to have owed its
importance very much to its episcopal dignity, and to the
various religious foundations which it contained.

The bishops of Autun held high rank in the church.
They were presidents of the order of the clergy in the states
of Burgundy, and administrators in spiritual and temporal
matters of the archbishopric of Lyon when that see was
vacant. They had jurisdiction over part of the city of Au-
tun. At present the diocese comprehends the department
of Saône et Loire, and the bishop is a suffragan of the Arch
bishop of Lyon and Vienne. Talleyrand was bishop of this
see when the Revolution broke out.

The trade of the town consists in horses, cattle, wool, and
broom. Serge, cotton-velvet, cloth for regimentals, homes
and leather, are among its manufactures. To the east of
the town are several mills. A fabric called tapiserie de
Marché, fitted for coverlets of beds, horse-clothes, and other
purposes, is made in this town. Of this manufacture Autun
was, and perhaps still is, the only seat. The population of
the commune of Autun on the 1st of January, 1832, was
about 10,000, of whom between 3000 and 4000 were in the
town.

There are here three libraries : a collection of portraits,
statues, and medals; an agricultural society; baths, and a
theatre; a tribunal de commerce, or commission for solving
mercantile disputes, and a tribunal de première instance, or
subordinate court of justice, with powers inferior to those
of the court regular, or assizes court.

Among the natives of Autun may be mentioned the pro-
AUVERGNE (Geology of.) A considerable portion of Central France is formed of gneiss, mica-slate, and other of the inferior stratified rocks, associated with granite. Whether any part of the granite has or has not been probed through the gneiss and mica-slate, since their consolidation, is not apparent; but as it seems occasionally to ease into gneiss, which in its turn graduates into mica-slate, we may infer that a part at least of the mass of granite was exhausted in the formation of the mica-slate of the Inferior district. Be this as it may, the beds of gneiss, mica-slate, and others of the same class, are sometimes highly inclined and contorted, as may be observed near Montal, showing that they have been acted on by some powerful force; but as these beds may have been subjected to the action of many powerful forces, during the series of ages which have elapsed since their production, we cannot, without better evidence than we possess, readily fix on the geological epoch when the gneiss and mica-slate were first thrown out of their original positions. As a whole, those rocks constitute a kind of elevated plain, having a mean height, according to Ramond, of about 3290 English feet, and rising, at Pierre-sur-Haute, to an elevation of 3410 feet above the level of the sea.

Above these rocks, which are sometimes termed primitive, or primary, because they are the most ancient with which we are acquainted, we find others that must have been formed at periods separated from each other by considerable intervals of time, since many rocks, necessary to complete the series of European deposits, are wanting between them. Finally, numerous volcanoes, now extinct, poured forth an abundance of igneous products, which, though partially consolidated, have disappeared from the surface of our planet. The rocks which in the order of relative antiquity succeed the inferior stratified and granite rocks above noticed, are referred to in the last section. The rocks which are the same age as the coal measures of Great Britain. Their general mineralogical characters are also similar, beds of coal being associated with shales, sandstone, and conglomerates; the whole appears to be the result of drifted vegetable matter, and of detritus from pre-existing rocks accumulated in unequal quantities and at unequal intervals of time in particular situations. The extent to which these carboniferous rocks once covered the granitic area of Central France is difficult to determine, inasmuch as the gravel changes to which the surface of the country has been exposed; but we may infer, from the general characters of the scattered portions now observed, that the coal measures were once more extensively distributed over Central France than we now find them. The manner in which they were formed is essentially the same as that of the coal beds, though they vary considerably in this respect, sometimes attain twenty or thirty yards in thickness. As the fossil plants discovered in these deposits do not afford any evidence of distant or violent transport, we may infer that the land on which they were once newly occupied by Central France at the epoch of the carboniferous group.

A long interval of time appears to have elapsed, judging at least from the rocks now found in Auvergne, before any other deposits were formed in this part of the European area. During this interval, it is to be supposed, to which it has been exposed, rocks may indeed have been produced, but no traces of such products are now visible, and the evidence is in favor of conditions unsuited to the formation of rocks in this district. It is probable that this may have been one of the epochs of the carboniferous group that to the greater group inclusive. If Central France has been elevated above the general level of the ocean from the time of the coal formation, we might infer from the total absence of rocks with marine remains, conditions would necessarily be unfavorable to the production of any abundant equivalents of those thick and numerous deposits of transported matter which occur in various parts of Europe, which are in the form of terraces, their origin, however, has been formed in a sea. We should, however, expect to discover traces of deposits effected in lakes, by the sides of rivers, and in other situations where transported detritus and calcareous matter precipitated from water could find places of rest. Conditions appear, however, to have been unfavorable for any accumulation of such deposits in sufficient abundance to leave traces of their existence, until the supracretaceous epoch, when large lakes were filled with detritus and calcareous matter.

The supracretaceous lacustrine deposits of Auvergne may, according to M. Crozet (Bulletin de la Soc. Géol. de France, 1833), be divided into three portions:—1. An inferior group of marls and red clays in the district of the former being the lowest. In these are discovered the remains of a quadruped, of a few small reptiles, and the impressions of decytophepous plants. 2. A central accumulation of marls, limestones, and gypseum, in which are found the exuviae of the ophidian Tholus oua, the rasboratherium, a small pachydermatous creature, the crocodile, tortoise, some small reptiles, and of birds analogous to the genus Aves. To which may be added the eggs of birds, and terrestrial depredators, stones and marl, containing an abundance of the Indusia tubulata, Cypria faba, Grygonites, Potamides, Helix, &c. The remains of numerous vertebrated animals are discovered in it; among which there are three species of rhinoceros, two rumina of a species analogous to the genus Novum, and the animals of the genera Canis, Felis, &c. The only portion of this mass of deposited matter of which the relative age has been doubted, consists of certain sandstones, constituting the base of the whole, and termed, according to a French author, a name also given to a rock discovered in a situation intermediate between the lias and the granitic district of Central France, and therefore of much greater antiquity than the lacustrine deposit under consideration. The scarcity of marine remains in the rocks is of little importance, since they are both formed of detrital matter derived from the granitic district itself, and which has afforded similar silt, sand, and gravel, at various geological epochs; so that rocks formed at different periods may be separated from the granitic mass beneath by similar sandstones.

The lakes, for there would appear to have been several, in which this mass of limestone and marl was deposited, must have been deep, since the thickness of the lacustrine formations of Auvergne has been estimated at 800 or 1000 feet in some places. The beds of which it is composed vary from two or three inches to six feet in depth, some of the laminae being exceedingly thin; and the whole, taken generally, presents the appearance of slow and tranquil deposition. As the remains of the mammiferous animals, detected in the upper portion, do not correspond with those discovered in the lower part of these beds, we may infer that a considerable time elapsed prior to the time when the district was affected even during the time that the various deposits were made in the same lakes. Subsequently to the production of the greater proportion of the lacustrine rocks noticed above, the surface of the country was raised, but the volcanic eruptions which occurred were in great abundance. In the Canta, which for the sake of greater clearness we shall consider as part of Auvergne, though geologists have been in the habit of separating them, there is no evidence of terrestrial volcanism, but the portion of the lacustrine rocks was produced after the volcanic eruptions commenced; it is otherwise, however, with the northern part of the district, for the lacustrine deposits of Limagne had not been trenched before the volcanoes burst forth in that direction, as may be seen at the hill of
Georgia, and two or three other places in the vicinity of
Clermont.

The volcanic products are extremely various; some
appearing like the older rocks melted by heat beneath and
thrown up, while others seem to have been derived from
masses which have been extruded on the surface. The two
mountains near Mont-Dore are remarkable for a certain
general resemblance to each other, consisting principally of trachyte
and basalt; the former having been, as a whole, first
thrown up, dislocating the latter. The former is yellowish,
the latter is grey. This observation may be seen in the Cantal
between Auillac and Murat, particularly from the village of
St. Roque to Polminhac. Large fragments of lacustrine
limestone (from 40 to 50 feet in diameter) are included among
the conglomerates. Trachytic rocks of the Cantal have not been produced at
a single eruption, but appear to have been formed at distinct
intervals of time, judging at least from the repetition of the beds.
Dykes of trachyte cut through the principal masses,
as may be observed near Fervel, and near the sources of
the Cer; and it is inferred, that the trachytic eruptions of the
Cantal ceased before the basaltic matter was poured forth,
since the trachytic dykes do not traverse the basalt. The
latter and its conglomerates cover the trachyte in a nearly
continuous mass, broken only by the radiating lines of
valley and the central part of the group, where the inferior
rocks are exposed to view. The Plomb de Cantal, which is
the highest point of the group, and a ridge of an elevation of
6093 English feet above the sea, is formed of a small patch of
basalt. This rock also occurs in dykes traversing the
trachytic masses, sometimes spreading out over their upper
surfaces; the Puys Violent (5323 feet above the sea) is thus
covered with a basalt, which reaches the summit of the
peaks. These dykes of this mountain keep a very constant direction
from S. 10° E. to N. 10° W. Like the trachytic rocks, the basaltic
rocks of the Cantal seem not to have been formed at a single
eruption, but several times, since they constitute several beds. In the
districts of the Puys Violent, and on the flanks of the Valle du
Mar, two beds of basalt are separated by a thick accumulation
of basaltic conglomerate, the lowest bed of basalt resting on trachytic
rubble. M. de Duraffour and Elie de Beaumont (Géographie des
Graves de France, 1833) consider that the cinder-stones at the Puys de
Grieu and adjacent places are more modern than the trachytes
and basalt; and that its eruption forced up these rocks, breaking the whole volcanic group of the Cantal into
those radiating valleys we now see, and which diverge from
the central part of the group onwards.

The Montes-Dore constitute another somewhat circular
system of volcanic mountains, about four leagues in diameter,
and 5000 feet above the sea—the highest elevated point of
Central France. The trachytic rocks are here also the most
antient volcanic products, and occupy the central and
largest part of the group of mountains. Their general mass,
thoough not strictly confined to the outer portions, patches of basalt occurring among the
trachytes of the interior. The whole rests on the granite and
other antient crystalline rocks of Auvergne. The
trachytic conglomerates alternate with solid trachyte, and the latter
is often divided into prisms as beautiful as those of basalt.
The upper bed of trachyte is the thickest, and forms the
rock beneath the greater part of the pastures of Montes-
Dore. Veins of trachyte are well seen in the Vallée du
Enfers. More modern volcanic action can be traced around
the great central mass of these mountains at Monteynard,
and the Puys d'Enfer; and scarce extremely fresh are
observed at the foot of the Val d'Auvern and Auvergne.

The great proportion of the more modern volcanoes of
Auvergne occur in the vicinity of, or at moderate distances
from, the town of Clermont. It would far exceed our
limits to enter into a detail of the volcanoes which are
found in this basin of Auvergne, and some of these have lost
the degrees of interest according to the situations where they
occur, and the rocks with which they are associated.
Though they are, for the most part, distinguished by
cones in different stages of preservative, by lava currents, and by
the presence of cinder, ashes, and lemniscatus in the pre-existing rocks, there are some remarkable for the
absence of cinders and lava currents, and which seem due to a modification of the more usual volcanic action. Of
these, one of the most remarkable is the Puys de Dôme.
formed of a particular kind of rock, which is named domite. This rock varies much in its appearance;
but is generally light grey, and sometimes contains fragments
of granite and of the porphyritic trachyte of the
Montes-Dore (Puys de Dôme, Puys de Barrow).

The Puys d'Enfer may be considered as the chief volcano of
the district; it rises to the height of 3986 feet above the level of the sea; and its truncated cone is a remarkable object, even among the other
volcanic eminences of the country. The crater is beautifully
walled, and measures 933 feet in circumference, and 93 in depth. The upper part of the mountain rises from another crater, from which the upper cone has evidently been
thrown up. The lower crater has been broken down on the side of the Puys de Dôme, to the extent of 400 feet, passing near Orcines, and forming the channel of the lava which rests on the village of Durtol now stands, and stopped at Nobamel.

The other stream, after passing La Baraque, and forming the
channel (as these sheets of lava are termed in Auvergnèse)
of Villars, descended on the granite plateau of the country,
and flowed on to F眉mont, about half a league from
Clermont. The Puys de Laschamps is a more modern
volcano, which attains the greatest elevation above the
sea, its height being 4176 feet above its level. Nothing can be
said of it which has not been already given of other volcanoes now in activity in other countries. Their presence in
Auvergne shows that volcanic action may suddenly commence
in any part of the earth's surface, where no such action had previously been apparent; and that long
centuries may be spent in the quietness of a central vent,
and alternately in the whole physical character of a country, it may cease, for
at least long periods of time, and a district once laid waste by volcanic eruptions be again freed from their ravages.

During the period that these rocks are in a state of activity, conditions would necessarily be favourable
for the production of alluvial deposits, the ashes, cinders,
and ejected stones being readily washed down into the
valleys, where they would be swept onwards by the rivers, and
deposited to the amount of many cubic fathoms. We must
expect to discover some traces of the animals which inhabited the country at this period, and from which we might
obtain an insight into the geological date of some of the eruptions themselves. The remains of antients, so smeared that they must have been entombed in the places where they now occur when the Auvergne volcanoes were in activity, have been found, and from the kind of remains discovered, volcanic eruptions are supposed to have occurred up is a series of three parts of the basaltic crust of the earth, the
lower by M. M. Croiset and Jolbert (Recherches sur les Oeufs. Plut. du
Puys de Dôme), they are, at the Montagne de Perrur (N.W. from Issoire), and in the neighbouring country, about 5000 feet above the sea. These basaltic beds are divided into four alternations of alluvium and basaltic
deposits. Three or four beds contain organic remains. The principal confusion is about ten feet thick, and can be
traced for a considerable distance at the Montagne de
Perrur. The remains discovered consist of—elephant one species; mastodon, one or two; hippopotamus, one;
rhinoceros, one; tapir, one; horse, one; bear, one; feline, four or five; byassa, two; bear, three; canis, one; ruminant one; other, one; hare, one; deer, one; bird, one; others, one or two; mice, one; fowl, one or two; snakes and ox, two. The remains are mixed confusedly with each other, and are of all ages; and mingled with them are the fossil remains of carnivora, appearing to occupy the places where they have been dropped. As moreover, the bones are never rolled, though frequently broken and gnawed, the animals whose remains are thus entombed would appear to have been inhabitants of the immediate
vicinity of the places where their remains are now found.

The waters of Auvergne have sometimes traversed pre-existing valleys, scattering the remains of the
lakes, the waters which accumulated in lakes beyond the barriers of lava. When these lakes became full, the surplus waters discharged over the lava land, and deposited sediment, forming bed-channels for the rivers, and the lakes disappeared. We should anticipate, unless the physical features of a given locality were materially changed during an eruption, that the lowest point of the basin of such lakes would be in the direction of the pre-existing valleys, and at the juncture of
the lava-currents with the opposite sides of such valleys.

This seems to have been the case with the lava-current from the Puys de Cômes (near Clermont), which flowed into the

The vineyard is especially well adapted to the climate and soil of the northern plains of France, where the grapes are large and

AUXERRE, a city in France, capital of the department of Yonne, is situated on the left bank of the Yonne, which gives name to the department. It is 102 miles S.E.

AUXERRE is mentioned in the later periods of the Roman occupation, but under the name of Autissiodorum, Autissiodorium, and Autossiodorum. It was in the

The town suffered considerably in the middle ages from the hostility of the Huns, Normans, Saracens, and English; and from the religious wars of the sixteenth century.

The marshal of Châtillon, who took Créant (a small place near Dreux) from the English, and restored it to the chapter of the cathedral, was received into the house of the eldest son of the family. They entered upon their office dressed in a curious combination of ecclesiastical and military garments.

The arrangement of Auxerre includes a district of 774 square miles or 493,360 acres, and a population of about 12,000 persons. (Maille Brun; Pignol of de la Force; Martinet; Encyclopédie Méthodique; Dictionnaire Universel de la France; M. J. Cobbe; Robertson's History of France.)

AUXILIARY VERBS are distinguished from the following verbs. Verbs express the notions of action: auxiliary verbs, though they originally expressed notions of action, only express relations of action when considered as auxiliary verbs, and are accordingly employed, in connection with other verbs, to give them certain relations called by grammarians tense, mood, and voice. The modern languages of Europe, and our own more particularly, abound in such forms; but it is obvious that the languages of Greece and Rome, sometimes altogether undisguised, more commonly so completely blended with the main verb as to pass for a mere arbitrary suffix, which the grammarians generally call the infinitive. It is in the same way that a particle which plays a secondary part, that it should not occupy too large a share of the attention; and thus those verbs which in course of time are used as auxiliaries, though originally as significant as any other verbs, lose something of their distinctive character; so that if the latter form happen to disappear from a language, the corrupted auxiliary presents anomalies which it is not easy for the philologist to explain. This difficulty is increased by the circumstance, that verbs used as auxiliaries generally throw off much of the distinctive meaning which they originally possessed.

Among the auxiliaries, the most important is the substantive verb signifying to be; and, as might be expected, no word has passed through more variations of form. Grumio and other old ballads, indeed, have latter form that there are three or even more distinct roots combined in the conjugation of this verb. But when allowance is made for the known changes that take place in the letters of the alphabet, there will appear to be a think of the nature of any other verb. Keeping in view the fact that all the varying forms of this verb are derived from a common origin.

As the ultimate form from which all the rest appear to us to have flowed, we will propose the root seet; and every other verb of the same class as having the notion of to be, the root seet. Such a form appears in the Latin esser, pronounced essor, and in the German sein, to be. The initial se, it is well known, sometimes changes in the form of a, and hence the stem of the verb, essen, of the verb to eat. Still more commonly the se is altogether dropped, and then we have the root se, which is the basis of the Greek sub-
The use of the verb to have in the formation of the perfects, so universal in the modern languages derived from Latin, may be occasionally seen in the parent language. Where it occurs, the Latin verbs have, habere, and some others, have undergone great changes, and in the English have, had, had, the Latin consonant has already disappeared. While in the Italian, the Latin habere, we find nothing of the root but the aspirate, even that is often omitted, so that we should hardly recognize habere as the first and second persons plural. But as we shall have further occasion for the forms of this verb in the Roman languages of Europe, we will place here the present tenses. Latin, habeo, habet, habes; habet, habere, habet; habemus, habetis, habent. In the Spanish, he, has, ha; habemos or hemos, habéis, han. French, a, a; a, avons, avez, ont.

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that the verbs to have and to wish (lwyn and duov) are often used interjectively. That such, however, is the fact, will not be disputed by those to the medieval language, may consult Anfange-grunde einer Litauischen Sprachlehre, &c., Von C. G. Mielke, Königsberg, 1800.

AUZONNE, or AUSONNE, a fortified town in France, on the left bank of the Saône, and on the road from Paris through the Academy, in Paris, 201 miles from the north of Paris and 18 S.E. of the city. It is in the department of Côtes-d'Or. The foundation of this city is fixed by some about the year 400 of the Christian era, but nothing certain appears to be 2300 years old; the town of Auxonne, in the county of Burgundy, and then was made the capital of the county of Auxonne, which came by exchange into the hands of the dukes of Burgundy, but was not united with their duchy. Upon the seizure of the possessions of the dukes of Burgundy by Louis XI., it fell into the power of that prince. By the treaty of Madrid, it was ceded by Francis I. of France to the emperor Charles V.; but the inhabitants refused to submit to the emperor, and obliged his general, Lannoy, who in 1525, went into the town for four months, to raise the siege. Before the kings of France acquired possession of the Franche Comté, Auxonne was one of the frontier towns of Burgundy, and was defended by a castle flanked by six large towers, erected by Louis XI., Charles VIII., and Louis XII., and manned by a garrison and a small corps of regular troops.

The streets are straight, and the fortifications serve as pleasant promenades. There is a fine bridge over the Saône; and at the end of the bridge, on the side next the town, is a causway of 2326 paces in length (nearly 25 English miles), built in twenty-three weeks for allowing passage to the water in case of inundation. This causway was constructed or improved by Margaret of Bavaria, duchess of Burgundy, in 1495. There are barracks, an arsenal, a school of artillery, a cannon foundry, and porter's mills; also, a library and a high school. There were several religious houses before the Revolution, and a poor and ill-built hospital. The town formerly consisted of two parishes, which are now incorporated into one.

The trade of Auxonne consists chiefly in wine, grain, and wood; as well as cloth and serge, which are sent to Lyons. In return, groceries, silk, and the wines of Mâcon, are received. These wines are sold again in Lorraine and Franche Comté. There are several working goldsmiths in the town.

The number of inhabitants was, in 1821, about 5,000.

There are, in the neighbourhood of Auxonne, quarries of stone of various colours—blue, red, yellow, and purple. Some species of terracotta and fossil corals are found in these quarries. The accuracy of the ground marl, and the abundance of good pasturage. (Encyclopédie Méthodique; Dictionnaire Universel de la France; Dupin; Mariette; Dacier; Audot.)

AUZONNET, ADRIEN, was a native of France, but neither the place nor time of his birth is known. He had established his reputation as an astronomer in 1666, and was one of the original members of the Academy of Sciences, founded in that year. He died in 1690, and was buried in the church of Delambre and others; in 1853, at Rome, according to Montucu, who cites the records of the Academy. The collection hereunder noticed, published in 1693, speaks of him as living (p. 346). Auzeinet is celebrated as having, in conjunction with Picard, discovered the mutual vibration of the moon and earth, and, in 1657, on an admission of Picard to Lahire (Montucu, ii. 543), ascertained by the latter; but there is no mention of it in Picard’s book On the Figure of the Earth. Auzeinet also made an independent invention and application to the telescope of the movable wire micrometer, on which he published a treatise in 1657. Picard assisted him in perfecting this instrument. Heyghens has been frequently stated as an inventor of this micrometer, but his instrument is different in principle, that of Auxineinet is more perfectly described, and is to be found in Picard’s On the Figure of the Earth.

Auzeinet discovered, with just severity, that the invention of the countrymen must needs be original, since the English themselves did not know what Gassouey had done, till Auzeinet communicated his own micrometer to the Royal Society; thus allowing a method of first-rate importance to be discovered by their own national feeling, and not love of science, ramassé their own records.

Auzeinet published observations and calculations of the comet of 1644, and the presentation of his results to Louis XIV., is said to have given that prince the first idea of founding an observatory at Paris. A comparison of the weights and measures of France and other countries, which is to be found, together with his own account of his micrometer, in the folio collection of Memôrers des Huit Académies de Science de France, Paris, 1693. Among other results with the micrometer, he observed and measured the diurnal variation of the moon’s diameter, first explained by Kepler. He was engaged in several discussions with Hooke, which more concern the history of the study of a planet.

Besides the preceding works, we have left of Auzeinet a letter on some new observations of Jupiter and Saturn, Paris, 1664; and a letter to the Abbé Charles on a collection of observations published by Campani, Paris, 1665.

Auzeinet was a good optimian and maker of angles; and when it is added that he never enjoyed even tolerable health, he must be considered as having done not a little for the science.

[See BIRMAN EMPIRE.]

[See BAHRAIN ISLANDS.]

AVALANCHEs are the most dangerous and terrible phenomena to which the valleys and hills of mountain districts are exposed. They are especially frequent in the Alps, owing to the steepness of their declivities, but they are also known in other mountain regions, as in the Pyrenees and in Norway. They originate in the higher region of the mountains, when the accumulation of snow becomes so great that the inclined plane on which the mass rests cannot any longer support it. It then is pushed down the declivity by its own weight, and precipitated into the subjacent valley, where it often destroys forests and villages, buries men and cattle, and sometimes fills up the rivers and stops their course. Besides what is covered with the masses of snow, persons are often killed and houses overthrown by the sudden compression of the air, caused by the incredible velocity with which these enormous masses descend.

Four different kinds of avalanches may be distinguished: drift avalanches, rolling avalanches, sliding avalanches, and glacial or ice avalanches, of which the first commonly take place in the early part of the winter, the second and third at the end of winter and in spring, and the last only in summer.

The drift or slow snow avalanches (called in Switzerland, staub-laissen) take place when heavy snow has fallen in the upper region of the mountains during a still calm, which exposes it to the meridional wind, and which is set in motion by a strong wind. The snow is driven from one declivity to another, and so enormously increased in its progress, that it brings down an incredible volume of loose snow, which often covers greater elevations of a valley. The damage caused by these avalanches is, however, generally not very great, because most of the objects covered by them may be freed from the snow without having sustained great damage; but they often produce such a compression of the air that trees are uprooted, and men and cattle suffocated.

The rolling avalanches are much more dangerous and destructive. These take place when, after a snow, the snow becomes clammy, and the single grains or flakes stick to one another, and so unite into a mass which commonly take the form of balls. Such a ball, moved by its own weight, begins to descend the inclined plane, and all the snow it meets in its course downwards sticks firmly to it. This snow-mass, increasing rapidly in its progress, and descending with great velocity, compresses everything that opposes its course—trees, forests, houses, and rocks. This is the most destructive of the avalanches, and causes great loss of life and property. In the year 1749, the whole village of Turoe in the province of Turin, in the Grisons, was covered, and at the same time removed from its site, by an avalanche of this description; but this change, which happened in the night time, was effected without the least noise, so that the inhabitants were not aware of it, and the town remained uninjured. It is impossible to conceive why it did not grow day. A hundred persons were dug out of the snow, sixty of whom were still alive. The interstices between the snow containing sufficient air to sup-
portun life. In 1894, an avalanche descended into Val Calanca, likewise in the canton of the Grisons, transplanted a forest from one side of the valley to the other on the same range of mountains. In 1892, sixty-four persons were killed in Feltan, in the high valley of Engadin, in the country of the Grisons; and, in the same year, eighty-four persons and four hundred head of cattle, in Oberruggen, and twenty-four of the latter, in both villages, in the canton of Wallis. In the same country, the village of Briol was almost entirely covered by an avalanche in 1827. Many thousands of strong trees are destroyed by these avalanches, either by being broken off by the great masses, or their branches and trunks being broken into the valley. Where these are common occurrence, the inhabitants of the valleys know the places where they come down, and by observing the changes of the weather, they are able to foretell the time of their descent.

The sliding avalanches (rutsch lauiuen, also called snuoggi (pron. sugy)) lauiuen in Switzerland) originate on the lower and less steep declivities, when, after a long thaw in spring, those layers of the snow-covering which are nearest the ground are dissolved into water, and thus the bond is loosened which unites the mass to its base. The whole snow-covering of a declivity then begins to move slowly down the slippery slope, and to carry before it everything which is too weak to withstand the impetus given it by the falling. When an object does not directly impinge upon the mass, it is either borne down by the snow accumulating behind it, or the whole mass divides and proceeds in its course on each side of it.

The ice or glacier avalanches are nothing but pieces of ice, which are broken off from the ice sheet, but, loosened by the summer heat, are detached from the principal mass, and precipitated down with a noise like thunder. They are commonly broken into small pieces by the rocks which they meet in their progress. When seen from a distance, they resemble the cataracts of a powerful stream. In the valley of Grindelwald, in the canton of Bern, they may often be seen; and at the base of the Jungfrau, the thunder which accompanies their fall is almost continually heard. They are not destructive in the same manner as the other avalanches, because they descend only upon places which are not inhabited.

Occasionally the avalanches change their character in their progress. When the declivity is not too great, and the ground under it not too slippery, the mass of snow begins to slide; but arriving at a precipitous descent, its velocity and its mass are greatly increased, and it begins to roll. If, at this stage of its course, it meets a strong, craggy road, it may be less destructive than the other avalanches, and may only break into pieces, and thus it appears at the end of its progress like a drift avalanche.

Avalanche is the common French expression for these natural phenomena, but in those districts of France which are placed on the range of mountains, and other names are: as avalanches, lavanches, lavanges, lavanes, lits, lits, lydts. In Italian they are called lavina and lavine; and in the Rhetic dialect of the Grisons, latina and litza. In German, they are named lasen, laufen, lauten, leuen, lowen, and lienen. In the Pyrenees they are sometimes called congères; and in Norway, snorsh and snosfond. (Kasthofer's Observations on a Journey through the Alps, 4th ed.)

AVALON, a town in France, in the department of Yonne, on the road from Paris to Lyons, 132 miles from Paris to the S.E. It is mentioned in the Itinerary of Antoninus the Itineraries of Aballon, and the attacks made upon it, in the tenth and eleventh centuries, indicate that it was at that period a place of some note. It stands on an eminence composed of coarse red granite, of moderate elevation, on the right bank of the Cousin (called in Brul's Map of France, and in that given in the Encyclopédie méthodique, the Cousin), and has well-built houses, and broad and clean streets. Along the brow of the hill on which the town stands, on the side next the river, is a pleasant walk planted with lime trees. The ascent is at this part very steep and broken, but the descent, after the stream is estimated at 600 feet, so that an extensive prospect is obtained of the district of Morvan, within the boundary of which Avallon is situated. This district of Morvan consists of primitive rocks, and abounds with wood; from it is a considerable part of the supply of the river of the same name, which flows to Paris for Paris is derived. (See MORVAN.)

It is collected at Avallon, and from thence sent in enviro-sungus-built rafts down the Cousin into the Cure, by the Saône into the Seine, and thence to Paris. Cleaned, wooden cloth, and paper are among the manufactures of the town and neighbourhood, and a trade is carried on in wine, wine, cattle, and oil. The inhabitants are above 5000. Avallon is the capital of an arrangeissement or sub-rent, and has a tribunal de commerce, or court of reference for settling commercial disputes, a high-school (collège), and an agricultural society. There are a theatre, public baths, and an hospital. Before the revolution there were four roads from Avallon to Neufchâteau, to Cuny, to Jura, and to the chief village of rail, fertile in corn, and producing vines of good quality. The arrangeissement contains 452 square miles, or 291,840 acres. Its population is about 47,000. (Explain, Dictionnaire Géographique, des pays de la France; Milan, Voyage dans les Départements du Midi de la France; Letters from France, by John M. Cobbett; Mallet Bram.)

AVANTURINE, a variety of quartz, remarkable for the brilliancy with which it reflects light, the effect being in the reflection of the general structure of the crystalline mass. From this circumstance it is sometimes employed in jewelry, but it is of little value.

AVATARA is a Sanskrit word, which properly signifies ‘a descent, or the act of descending.’ e.g. from a beast or other vehicle, is usually applied to the descent of the Hindu deities, or their appearance, in some manifest shape, upon earth. Our information regarding the successive development of religious and mythological ideas among the Hindus is very imperfect. It appears, however, that the doctrine of the Avatars belongs to a comparatively recent period. Those portions of the vedas or sacred writings of the Hindus, to which, from the style and structure of their language, the highest antiquity may with safety be assigned, is differently treated, in the other authorities, of natural power, but do not allude to those apparently more spiritualized deities that require to be invested with a bodily frame to operate in the material world.

The number of the Avatars mentioned in the Puranas, or legendary poems of the Hindus, is very great. Those of Vishnu alone, who is distinguished by the character of 'Preserver' in the Trimurti, or triad of the principal Hindu deities, are stated to be endless. They are variously enumerated; but all accounts agree in selecting the following ten as the most conspicuous:

1. Matsya, the Fish, under which form Vishnu preserved Manu, the ancestor of the present human race, during a universal deluge.

2. Kârûra, the Tortoise, which incarnation Vishnu undertook in order to support Mount Mandara, or rather the entire earth, when the celestial gods and their opponents the Asuras, or Dityas, were chewing the sea for the beverage of immortality, as the gods and demons exchanged blows.

3. Varaha, the Boar. Vishnu, with the head of a monstrous boar, is represented as slaying Hiranyakasîva, the chief of the Asuras, who had taken possession of the celestial regions, and as uplift ing the earth which had been sunk to the bottom of the sea.

4. In his incarnation as Narasimha, a being half man and half lion, Vishnu killed Hiranyakásîva, the brother of Hiranyakasîva.

5. The form of Jlamana, the Dwarf, was assumed by Vishnu to humble the pride of King Bishnu. He was sacrificed because the king was performing, and supplicated for as much ground as he could measure with three steps, which request being granted, the dwarf suddenly grew to an immeasurable size, and with his steps comprised earth, water, and heaven.

6. Vishnu appeared in a human form, as Parasurâma, the son of Jamadagni and Râñukâ, in order to preserve mankind, and especially the Brâhmans, from the tyranny of the military and political power of the Asuras of the days of Duryodhana.

7. Vishnu was born as the son of King Dasaheka, and under the name of Râma, in order to destroy Ravana, the Ditya sovereign of Ceylon, and other demons who were then infesting the earth. The actions of Râma form the subject of a celebrated epic poem in Sanskrit, called the Râmasîma, and attributed to the ancient sage Valînkî.
9. The most celebrated of the Avatāras of Viṣṇu is his appearance in the human form of Kṛṣṇa, in which he is supposed to have been wholly and completely indiscriminate, whereas the other Avatāras are only considered as emanations from his being. Kṛṣṇa assisted the family of the Pāndavas in their war with the Kūraus, and through them relieved the distress of the victims of the wicked man who oppressed them. The history of this conflict is told in the Mahābhārata, another great epic poem in Sanskrit.

10. Ḫudu is, by the followers of the Brahmanical religion, considered as a delusive incarnation of Viṣṇu, assumed by the gods to deceive the Avatāra, to abandon the sacred ordinances of the Vedas, by which they lost their strength and supremacy.

11. Keli is the name of an Avatāra in which Viṣṇu will appear at the end of the Kaliyuga, or present age of the world, to destroy all vices and wickedness, and to restore the world to virtue and purity.

We cannot enumerate the Avatāras of the inferior deities, in which the mythology of the Hindus abounds. We do not remember ever to have heard of any of Brahmā or Śiva, the two supreme deities who, with Viṣṇu, constitute the Trimūrti. In the seventh volume of the Asiatic Researches (Calcuta, 1901) may be seen an account given by Captain Edward Moor of an incarnation of Ganessa, or Ganesa, who, arrived, since the year A.D. 1810, became hereditary in the family of Moonam Contractor, at Moonam, in the province of Punah. The Rev. John Graham (now Mrs. Calcutt), who in 1809 visited this living Avatāra, which was then a child, has given an interesting notice of it in her journal.


3. ABBURY, ABBURY, ABBYR, the name of a village and parish in Huntingdon, England, and at present a name descriptive of the tract of what was once the largest and most interesting Celtic or Druidical temple in Europe. The origin of the name is uncertain: the last part, bury, a borough, or fortified place, and abury, a. round word, and if so, Abbury is not the original name of the place. It is supposed by some scholars that the reader has an account of this great work, as it is presumed to have been in a perfect state; and also with the opinions of some eminent antiquaries respecting its original destination. For this purpose we must refer to the descriptions, drawings, and printed accounts which Dr. Stukeley has left in his interesting work, entitled Abbury, a Temple of the British Druids, fol. 1743. Though the volume bears this date, it appears that the doctor surveyed the place, and made his account of it, as early as 1728, in the vicinity, during the years 1720-24. It is due to that learned and zealous, but rather credulous antiquary to say, that his delineations have every appearance of general accuracy, and that his descriptions are sufficiently permanent.

Before Stukeley's publications, very little was known of Abbury; neither Camden, Leland, nor any other topographer or antiquary seems to have published any account of it. Aubrey, a native of Wiltshire, and an ardent lover of antiquarian subjects, had visited Abbury in 1648. In the year 1643, he was commanded by King Charles II. to write some account of this remarkable monument, the monarch being then on his way to Bath, and having examined the whole in company with Aubrey and Dr. Chariton, who afterwards published An Account of Stonehenge. 'These antiquaries,' says Aubrey in his MS. treatise, 'are so exceedingly old that no books do reach them. I can affirm that I have brought this temple from utter darkness into the light, and am nearer to it than any man that I know before me.' Though Aubrey's account is very imperfect, and was never completed, and though his sketches are even more defective than his descriptions, yet as they are the first record of the place, and contain some useful facts and evidence of the antiquity of it, the difficulties of the seven years before Dr. Stukeley commenced his survey, are valuable and interesting to the antiquary. (See Aubrey.)

The accompanying plans show the general form and arrangement of the stones. When the aborigines of the island fixed on this site for their great temple, we may reasonably conclude that it was in a state of nature, and, like the general character of the Marshborough Downs and Salisbury Plain, was without either trees or underwood of any kind. A thin stratum of mould here covers a continuous chalk substratum, which presents a clean, dry, grassy surface. The immediate approach to the great circular temple is a flat area of ground, having an irregular range of low hills on the east, running north and south, a rising tract of land to the south, a level country of some miles in extent to the north, some undulating and rather high hills to the west, and the coast, with its great river, the Clyde, forming the boundary to the north. Above this, a quiet, called the Kennet, a tributary to the Thames, has its source in a short distance north of the temple. The geological characteristics of the district probably occasioned its being chosen for the erection of a temple which was to be the seat of the edifice of the priests in the island, in which, this might have been regarded as the grand national cathedral, while the smaller circles, in different parts of the island, might be compared to the parish, or village churches. On the surface of the ground, both in the neighbouring valleys and on the high lands, are numerous masses of stone. There is still a great number of detached ovallic sandstones of various sizes, known by the name of the Grey Wethers, lying near the Bath road, in the neighbourhood of Abbury. From among these stones scattered about the neighbourhood, the builders or rather makers of the temple selected such as seemed best adapted to their rude design.

No less than 650 blocks were brought together and placed in circles and rows. These stones were of various dimensions, measuring from five to twenty feet in height above the ground, and from three to twelve feet in width and thickness. One hundred were raised on end, and laid in a circular form, forming a circular area of about fourteen feet in diameter; and these stones were bounded by a deep ditch and lofty wall, which enclosed the whole work, except at two places, where openings were left for entrances to the temple. The bank or mound, with its circumference of 200 feet, seems to have been originally only two openings corresponding to the two great avenues which will be described hereafter. The inner slope of the bank measured eighty feet, and its whole existent, or circumference, at the top, was, according to Stukeley, 600 feet. So that, within the bank or mound is somewhat more than twenty-eight acres. About half way up the inner slope was a sort of terrace walk, apparently adapted for spectators. Dr. Stukeley conjectures that there was a second circular arrangement of upright stones at a short distance within the other circle; and he founds his opinion upon the feet of there being one large stone in a position which does not come into any other component circle of the temple. As the diagram of the temple, showing the arrangement of the stones of No. 3, there were two other small temples within the periphery of the great circle. One was a double circle of upright stones, with a single stone raised near the centre, which Stukeley calls the ambive, or obeleisk; this small temple consists of forty-five stones, as shown in the plan of No. 1 at c. Another temple, of forty-five stones, some of which are still standing and of immense size, was placed a little north of the former, and consisted also of two concentric circles, enclosing a group of three tall stones, called the pase. These were the component parts and the general design and arrangement of the triple temple, as it may be called; but there were two members, or connecting parts, which belonged, and gave a peculiarity to this work, distinguishing it from all other Celtic temples. These were avenues of approach, consisting of double rows, or lines of upright stones, which branched off from the central work, each to the extent of more than a mile. One of them branched off from the outer circle, to the south-west, and was almost squared, the height of the stones varied from fifty to thirty-five feet between the stones, which were, on an average, eighty feet apart from each other in their linear direction. The outer oval of the terminating temple (e) to the south-east, on an eminence called the Hapton, where 500 feet wide, the width of the stone varied from fifty to forty-five feet across. The western avenue (c) extended about one mile and a half, and consisted of 463 stones; its extremity ended, a point, or with a single stone. These avenues, or great approaches to the temple, were not arranged with much height,
but rather in flowing or curved lines, and, according to the theories of Dr. Stukeley and some of his followers, were intended to represent the natural action of a serpent.

Besides the works already described, there are others of very remote antiquity in the immediate vicinity, which, if not integral parts of the temple, were either connected with it, or may be regarded as belonging to the same age and people. These are the numerous barrows, or tumuli, which abound on the neighbouring downs, with the cromlechs and the track-ways. Among the first may be named that large barrow called Silbury Hill, the position of which is shown in diagram No. 2, f, and No. 3, 7. This vast artificial conical mound of earth is regarded as the largest tumulus in Europe, and may be compared to those mentioned by Homer, Herodotus [see Abydos], and other ancient writers. Stukeley, who has given a minute but not very accurate account of it, considers it to be the sepulchral monument of a British king who founded the temple at Avebury. 'I have no scruple to affirm,' he says, 'it is the most magnificent mausoleum in the world, without excepting the Egyptian pyramids.' Though this is a great exaggeration, it is a work which must have cost immense labour. In Sir Richard Hoare's large publication, entitled Antiquities Wiltshire, we are furnished with the survey and calculations of Mr. Edward Crocker, a scientific professional surveyor. The circumference of the hill, as near the base as possible, measures 2927 feet; the diameter, at top, 150 feet, the sloping height 315 feet, and the perpendicular height 170 feet; but that part of our measurement which will excite the most surprise is, that the artificial hill covers the space of five acres and thirty-four perches of land. For what purpose this huge pile of earth was raised, appears to be beyond the reach of conjecture; but 'I think,' says Sir R. Hoare, 'there can be no doubt it was one of the component parts of the grand temple at Avebury, not a sepulchral mound raised over the bones and ashes of a king or arch-druid. Its situation opposite to the temple, and nearly in the centre between the two avenues, seems in some degree to warrant this supposition. Dr. Stukeley (p. 51) observes, 'that the meridian line of the whole work passes from Silbury Hill to the centre of the temple of Avebury,' which observation, making the proper allowance for the variation of the compass, we found very nearly correct in the year 1814. Many other barrows of various dimensions and forms are seen on the downs, some of which Sir Richard Hoare opened in the year 1814. [See Barrow.] A proof that Silbury Hill, and some other barrows near it, were raised before the Roman colonization of Britain, may be found in the fact that the base of the great Roman road from Auge Solis, or Bath, to London, or London, is straight for some miles till it comes to the hill, when it diverges to the south, and again continues in a direct line to Marlborough; in one place the road-makers cut through a large barrow in forming their road.

In the garden of the Castle Inn at Marlborough there is a conical mound of considerable elevation: it is now planted with trees, and a winding path has been made round it, leading to the top. Mr. Bowles remarks that this mound, Silbury Hill, and the mound at Marden form a triangle, which of necessity they must, unless they lie in a straight line.

About one mile north of Avebury are the remains of a large cromlech, with the stones fallen, which Stukeley calls a fast-navy; and at Claverton-brook, about three miles east
of Avebury, is another cromlech, consisting of two standing stones, and one larger raised on them. South of Avebury, about two miles, is a large and long tumulus, which Stukeley called the Arch-Druis's barrow, and which was formerly surrounded by upright stones, and had a kist-van, or a cist over it. There was another tumulus, within a mile of Avebury, were two circles of standing stones, and a single stone standing detached from the circle. At Rockley, and on Temple Down, east of Avebury, were other cromlecha, and works of a similar kind to those already referred to. There is a third British tumulus, in different parts of the downs, all tending to show that this district was, at a remote age, not only a place of permanent residence for a large population, but that it was the chief seat of the religious order of the antient Britons.

The town or village of Avebury now contains a village with its fields, hedge-rows, and buildings, so that it is difficult at present to make out the original design. When Aubrey surveyed the place, in 1648, there were a number of stones than at the time Dr. Stukeley commenced his examination in 1720; and when Sir Richard Hoare and his surveyor made their plan and drawings, in 1812, the stones were still further diminished in number. Even since the latter date, others of the upright stones of Newgrange, in Ireland, is it probable that the remainder will speedily be destroyed and converted into materials for stone fences or roads. Aubrey describes 63 stones as remaining within the entrenchment inclosure in his time, which were reduced to 29 when Stukeley made his plan of the tumulus in 1720, and a small boulder mentioned by Sir Richard Hoare. In the western avenue there are two upright stones left, and about 16 of the southern avenue; but not one remains of the two ovals on Hackpen Hill. An avenue at Avebury was constructed, and the design of it, opinions differ considerably. The most common opinion is that it was raised by a class of the antient inhabitants of Britain called the Druids or Priests, before the Christian era, and was a national temple in which were kept the shrines and images of the antient gods, and that the remainder served the double purpose of religion and judicature. It seems certain that at least it was not intended for defence, because the ditch is within the mound. On these matters we seek in vain for any thing like ancient history or evidence which may at all be considered as disputing antiquity. Nearly all writers on this subject, such as Stukeley, Borlase, Toland, King, Vallancey, Revlins, Davies, Davus, and others, have indulged their fancy in dissertations and speculations on the religion, the manners, and the polity of an antient people, without any data at all. Dr. Stukeley prosecuted his antiquarian studies with intense zeal and considerable learning, but with a disposition to indulge in extravagant speculation; and some of his conclusions are most absurd. This is contending against the same process of study and research. They contend that the Temple at Avebury was raised by the Druids, who worshipped the sun and the moon, and who 'public sacrifices, games, hymns, &c., were periodically performed at 'four seasons or great festivals of the year.' "On no one subject," says the Rev. Mr. Ledwich, in Archaeologia, vol. viii., "has fancy ranged with more licentious indulgence than that of the Druids and their superstitions. Their admirers have represented them as cultivating the abstruse sciences, andPerfecting the sublime mysteries of nature, anticipating the discoveries of Pythagoras, Epicurus, Archimedes, and Newton; and all this without the aid of letters or experiments, without those progressive steps in civil and religious affairs which, in the annals of politics and wars, lead it to the study of abstract knowledge. Such information, or rather such inferences, have been drawn from a few imperfect and incidental notices in the writings of Julius Cæsar, Diodorus, Strabo, Livy, Tacitus, and Pliny. The whole information of all those authors would not amount to three or four pages; yet from such materials some modern English writers have contrived to write many volumes. It is not necessary here to make any remarks on this subject. What is here related by the English writers, Davies, and Deane. The last-mentioned gentleman has lately published a volume "on the worship of the serpent," in which he adopts the theories of Dr. Stukeley, and endeavors to prove that the Temple at Avebury, and some other antient monuments, were in the form of a serpent, and hence may be called draconia, or serpent temples. The 25th volume of the Archaeologia contains his account, with plans and views, of the vast ranges of upright stones at Carnac in Brittany.

For dissertations on Avebury particularly, and other matters connected with Druidical antiquities, &c., the reader is referred to Dr. Stukeley's volume already noticed; to another folio volume, by the same author on Stonehenge; to Sir Richard Hoare's Ancient Monuments of Cornwall, vol. i. 1792; to the Celtic Researches, 8vo., 1804; and his other volume, The Mythology and Rites of the British Druids, 8vo., 1809; Roberts's Sketch of the Early History of the Cymry, or Welsh, 12mo., 1836; and the Book of the Kells, published by the Rev. Mr. Hunter, in 1834. Mallet's Northern Antiquities, 2 vols. 8vo., 1803; and Topland's History of the Druids, 8vo., 1814; Higgins's Celtic Druses, 3d. ed., 1837; Present State of Abbey, by the Rev. J. Hunter, 12mo., 1824; and the Journal of the Society of Druideology, vol. i. 1824.

AVEIRO, a city of Portugal, in the province of Beira, 49° 38' N. lat., 8° 56' W. long. It stands on a gentle elevation, upon the banks of the river Vouga, which flows through the city, and is abundantly supplied with water.

The town is divided into five parts, one of which is surrounded with an antient wall, and the remaining four are the suburbs. At the highest part of the city, on the southern side, is a promenade leading to a convent of the antient order of the Hermits. The suburbs are five small hills, the water of which is employed for domestic uses and for irrigating the gardens. Aveiro is separated from the sea by a bar of sand-hills formed by the tide of the mouth of the river Vouga, which orders the exit of the river in the interior of the bay. The town stands above eight or nine feet of water may conveniently pass. The small gulf opposite the town is covered with little islands on which the inhabitants make great quantities of common salt; this article, with oranges and salt fish, forms their principal branch of export. In these islands they cultivate several species of vegetables for common use. The sea on the coast abounds in delicate fish and sea birds. The lampreys of the Vouga, and the shell-fish of Aveiro are celebrated in Portugal. The town has two parishes, four convents of monks, and three of nuns; its population amounts to 5064 inhabitants.

Aveiro is the capital of the Comarca, or district of that name, which embraces all the territory comprised between the districts of Coimbra and Fous on the south and north, and between Viseu and the ocean on the east and west. The whole district contains a population of 81,570 inhabitants, distributed in several villages, all situated on the banks of the river Vouga and Aveira. The country is generally fertile, and produces grain, wine, oil, and fruit, especially oranges. The territory is low, intersected by many brooks and small channels; and confined on the east side by a high mountain, which is a branch of the Sierra Morena, and renders the whole district barren and subjects its inhabitants to intermittent fevers. (Miñano's Diccionario Geografico; Antillon's Geografia; Castro, Mapa de Portugal antigo e moderno.)

A V E L L I N O, in the province of Naples, near Nola, on the skirts of the plain, and at the foot of the mountains which divide it from the province of Principato Ultra. It commands a fine view as far as Naples, from which it is eighteen miles distant N. E. It gives the title of Prince to a Neapolitan family. Near Avella are the ruins of the antient Abella, celebrated by Virgil (Eneid. vii.) for the abundance of its apples, for which its territory is still famed. The honey gathered in the neighbourhood is also renowned for its flavour. Remains of the old church of San Giovanni, which are still to be seen. The river Clariana, or Laghi, has its source in the mountains near Avella, and after watering the plain of Campania, flows into the sea near the lake Pattiara. N. A V E L L I N O, a consideration of the antient Campania, near Naples, and the capital of the province of Principal Ultra. It is on the high road from Naples to Puglia, 30 miles E. by M. of Naples, in 40° 55' N. lat., and 14° 45' E. long. Avellino is built on the declivity of a hill in the province of Campania. It is one of the chief towns of the Apennine chain, of which the one to the north-west of Avellino divides the valley from the plains of Campania. In this ridge is the strong pass of Monteforte, famous in the annals of that country. The valley of the Sabato is formed by the mountains of Montefusco and Montemilù, which divide the valley of Avellino from that watered by the river Calore, beyond which is the third
or central ridge, on which Ariano stands. [See Ariano.]
The Calore and the Sabato afterwards unite their waters at Benevento, 16 miles N. by W. of Avellino. From Avellino a fine new road leads to Salerno, which is seventeen miles to the south. Avellino was built in the time of the Lombards, it is the neighborhood of Abellinum, which was situated on a mountain about two miles eastward, near the small town of Atipalpa, where many remains of antiquity have been found. Three miles north of Avellino, on a rocky mountain which is celebrated sanctuary of Mary of the Virgin, once a rich Benedictine convent, now suppressed; it was built in the eleventh century, on the ruins of a temple of Cybele. The population of Avellino is reckoned by Balbi at 18,000, which we think too low, it is certainly a much more extensive than 15 years; we believe it must be at least 30,000. Avellino is a bishop's see, and a place of considerable trade in country produce, caste, &c., owing to its favourable central position; there are also several manufacturers of cloth, macaroni, and paper. It has a royal college for the instruction of youth; it also contains the courts of justice for the province of Priziepe, and is the residence of the intendente or governor of the province. It gives the title of prince to a Neapolitan family, the Marquis of Caraccioli, which is possessed of considerable estates in the neighborhood. The eldest son of the Prince of Avellino bears the title of Duke of Atipalpa. The territory of Avellino abounds with fruit trees, especially the apple and the hazelnut. It is much esteemed for the time of the Romans, under the name of nux Avellana.

A V E M A R I A, the two first words of a short Latin prayer or invocation to the Virgin Mary, which is frequently said by Roman Catholics in their orisons. The first part of the prayer is a known one, it is only the second part, or the name of the angel to Mary on her conception. (See Luke's Gospel, i, 26.)

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A V E N A, the botanical name of the genus to which the cultivated oat belongs. As understood by Linnaeus and the writers of his school, it comprehended many very distinct forms of gramin, as well as the common cultivated kinds; but by other botanists it is more correctly limited to the species that yield corn, and to such as are closely related to them. They are known by the term oat; on their two loose membranous glumes, and by the small number of their florets, each of which has one of its beaks or palea armed with a strong twisted beak or awn. The oat is generally, but not uniformly, closely invested with the chaffy outer covering of the bran.

The common oat, Avena sativa, is that which is most generally cultivated for the use of man; like most other corn-plants, its native country is unknown; it cannot, however, be supposed to be the offspring of cultivation or of domestication, but has been known to man for thousands of years. It is cultivated in the northern provinces of Asia, to which the European have little access. For its agricultural varieties and their respective qualities, see OAT.

The Tartar oat is cultivated in a distinct sense, on account of its more compact and one-seeded panicle, and of both its florets having a bearded head; it is, however, doubts, if it can be regarded as anything more than a variety of A. sativa. Botanists call it A. oryzaefusa, but its native country seems to be within the region of China along with some of the rice crops, this species is the most productive of all the oat-grains, which is of a smaller kind than the common oat, its branches are very closely crowded, but the grains, which are large and of excellent quality. It is, however, said to be difficult to harvest on account of the grains not adhering to the husks, but being very easily detached from them. It is probable that the species, which of which is much has been lately said in the English and Irish newspapers, where it is spoken of under the strange name of avernae sativa.

Besides the species cultivated for the corn which they yield, there is another that deserves to be noticed, on account of its remarkable hygroscopic action. This plant, the natural oat of gardeners, the A. sativa of systematic writers, is something like the common oat when young; but when ripe, its grains are inclosed in hard, hairy, brown husks, from the thick of which rises a stout bent and twisted awn; usually two such husks grow together, and separate from the stalk by a deep oblique scar. Taking the head of an insect, the husks with their long stiff brown hairs resemble its body, and the two bent awns represent its legs. Nothing can be more curious than to see the path of a garden-walk covered with these things tumbling and squirming about in different directions, until their awns are so entangled that they can twist no further. They then remain quiet till the dew falls, or they are moistened by a shower, when they may be easily unhooked and run away, as if they were anxious to get out of the way of the wet.

For A. avernae, a grass employed in agriculture, see TURMERIC.

A V E N B R U G G E R, LEOPOLD, a physician of the last century, was born at Graz, in Styria, in the year 1722. He studied medicine and graduated at Vienna, where he practised, and became physician in ordinary to the Spanish nation in the Imperial Hospital of that city. In 1791 he was sent as a medical missionary to the subalpine and northern provinces of Italy, as he was made known to a discovery of an application of the laws of acoustics, or of sounds, to the investigation of the phenomena or action of the internal parts of the human body, particularly the cavities of the chest and abdomen. He translated out of the original into the German was by Rosenh., in 1770, and again by Corvista in 1800, accompa-
into English by Dr. Forbes of Chichester, along with a selection of
Covaris's comments. This translation is called Original Cases, by John Forbes, M.D.,
London, 1724. This method is termed Persuasion.
Avenebruger wrote a work on Madness, in Latin, 1778,
and another work in German, published in 1783; he died
in 1789. These last works are not well known, and
are his first, though announcing a most valuable discovery,
of vast importance in the examination of the various
diseases of the chest and abdomen, attracted little attention till Covaris
translated and published them, and wrote comments and
writings. It is now appreciated as it deserves to be. [See AUSCULTATION.]

AVENS. [See GRUM.]

AVENTINE HILL. [See ROMS.]

AVENTINUS, JOHANN TOLLMAYER, the son
of Johann, was born in Bavaria, in 1478. He studied at Ingolstadt, and afterwards at Paris, where he
The work was first
published in 1514, after the death of the editor, Ziegler, suppressed some passages, which, however, were
restored in the edition of 1560 by Cisneros. Several other editions, which were supposed to be superior to the
first, were published in the 16th and 17th centuries. Gendling, considered the best. It has also been published
in German, but abridged. Avenebruger wrote several
other learned works; among the rest: Numermedi per diges-
tis computari, quod sequentibus extremae consuetudines
Abbas, de, 1542. Some of these works are included in
some tables which he found at Ratisbon representing the
annular masses of the Romans counting on their fingers;
which custom is still continued in Southern Italy. Vita
Hieronymi, et ascendentibus, ab anno 410, 1503.
This work is very rare. Avenebruger died in January, 1534.

AVENZOAR, or AVEN ZOHAR, is the name of two
Arabian physicians, father and son, who flourished in Spain
during the twelfth century. They were Jews by descent and
religion. The first and most celebrated of them was
Abu Marwan Mohammed ben Abdalmelik ben Zohar. According to Ibn Albari, an Arabian author
quoted by Casiri (Biblioth. Ecorc, t. ii. p. 129), he was a
student of among others, Abu Marwan ben Zohar (of Sevilla), and lived as physician at the court of Ibrahim ben
Yousef ben Tashfin, the Almoravid sovereign of Morocco and
Cordova. He died, according to the same authority,
at Sevilla, in the year 627 after the Hegira (a.d. 1227). His
father, Abu Marwan ben Zohar, was also a physician, but
was held in high esteem. The most important of
them is the Tusif, or Introducior; a Latin translation of
which, made from an intermediate Hebrew version, has
been printed recently, and is the first of its kind.

The average is a quantity intermediate to a number of
other quantities, so that the sum total of its excesses above
those which are higher, is equal to the sum total of those
from which are greater. Or, the average is the quantity
which will remain in each of a number of lots, if we take
from one and add to another till all have the same; it
must not be supposed to be the same as the total average,
except what comes from the reduction of others. Thus,
7 is the average of 3, 4, 6, 13, and 14; for the sum of the
excesses of 7 above 3, 4, 6, and 14— that is 9, 5, 7, and 7— is the average of 7 above 3, 4, 6, and 14; for the average of 7 and 6 is 6 1/2.
Similarly, to find the average of any number of quantities, add them all together, and divide by
the number of quantities. Thus, in the preceding question,
add together 3, 4, 6, 13, and 14, which gives 42; divide
by the number of quantities, which gives 8 1/2.
It must be remembered that the average of a set of
averages is not the average of the whole, unless there are equal
numbers of quantities in each set averaged. This will be
seen by taking the average of the whole, without having recourse
to the partial averages. For instance, if 10 men have on the average the 100 lb., and 50 other men have on the average 300 lb., the average sum possessed by each individual is not the average of 100 lb. and 300 lb.; for the 10 men have an average of 150 lb. and the 50 men an average of 150 lb., and 150 lb. is 15,000 lb., being 150,000 lb. in all. This, divided into 60 parts, gives 250 lb., 15 2/3 lb. to each. A neglect of this remark
might lead to erroneous estimates; as, for instance, if a
crane were called good because an average bushel of its
cargo was worth an average dollar, without taking into account the number of bushels of the two.
The average quantity is a valuable common-sense test
of the goodness or badness of any particular lot, but only
estimations of this lake, near the shores of which the Com-
merians, a people who lived in places where the sun never
whose cases resided, according to fabulous tradition. It is likely, however, that when the surrounding banks were thickly covered with forest trees overhanging the river, it may have had a much gloomier appearance than at present; but the trees have been cut down on one side of the river and its banks partially cultivated. The story of the mephitic exhalations which killed the birds that attempted to fly over the surface of the lake (Virgil, b. viii, 5), a phenomenon which gave rise to the Greek name of Aornos, was not true, although evidence of evaporation under the sun has one time have some foundation in truth, as the whole of this region is of volcanic formation, and emits mephitic exhalations; indeed, the lake itself is the crater of an extinct volcano. Hannibale is reported to have gone to Lucernum (xrvii. 155), and Agrippa has paid several visits to Avernus, under the pretext of sacrificing, but in fact with other views. But in the time of Virgil, a communication was opened between Avernus and the neighboring lake Lucernum, which, itself communicating with the sea, was considered by Agrippa in a fine harbor, called Portus Julius. The Lucrine lake was filled up by an eruption which took place in 1538, when a conical mountain rose in its place, which is called Monte Nuovo. Avernus has thus become again a separate lake; and the muddy pool half filled with reeds, and close to the sea-coast, is all that remains of the famous Lucernum. On the southwestern bank of Avernus stands a large and lofty octagonal building of brick, vaulted, and with niches in the walls, supposed by some to have been the Boeotian bath; it is now surrounded by vine trees. Farther to the westward is the entrance to a subterranean passage, called Grotta della Sibilla; it divides into two galleries, one of which opens to the neighboring sea-coast near the pool of Lucerna; the other branches to the right in the direction of Cumna, which place it once reached: Strabo informs us that it was made by Cocceius, under the direction of Agrippa. This last passage has become obstructed by the solidification of the earth. There are several springs in the immediate neighborhood of the lake of Avernus, some of which are used as baths. The most celebrated are the hottest which are close by the sea-shore, and consist of galleries worked through the earth and terminated by a basin or fountain, in which the water strongly impregnated with sulphur, so hot as to boil eggs immersed in it, and the vapoors of which fill up the whole place. Persons resort here for the purpose of taking vapour-baths, the efficacy of which in several complaints has been ascertained. The ruins of Cumna are about one mile west of Avernus. The air of the country about Avernus and the Lucrine pool is wholesome in summer. (See Sirinus, p. 144; and Bai.)

Aervis, a genus of plants belonging to the woodcock tribe (Ornithodoce). It consists of two species, both of which form small trees in the East Indies. They are remarkable for their leaves, which are pinnate, possessing, in a slight degree, the kind of irritability found in the sensitive plant. The pinnules, or leaflets, are covered with a fine, thick, downy, tindal wings. From the other genus of Ornithodoce they are known by this character, independently of all others. In the carambula (A. carambala), the leaves are smooth, the flowers of a violet purple, and the fruit about the size of a goose's egg; it is of a pale yellow colour, and is said to be agreeably acid in the East Indies. It was expected that it would prove worth cultivating in the hothouses for the dessert, but it proves upon trial to be insipid, and far inferior to the European species.

The other species, called the beembling (A. bilimbi), has downy leaves, and fruit resembling a small cucumber. The latter is intensely acid, and cannot be eaten raw. It is pickled or candied, or a syrup is obtained from it by boiling with sugar, and its juice is found an excellent agent for removing iron-moulds or other spots from linen. To the Malays it answers the same purposes as the citron, the gooseberry, the elder, and the cucumber of Europe.

AVERSA, a town in the province of Teramo, in the kingdom of Naples, situated in a fertile plain eight miles N. by W. of Naples, and on the high road to Rome, in 40° 53' N. lat., and 14° 11' E. long. Aversa was built in 1290 by Ralph, a Norman chief, in the country as to the auxiliary of the Lombard princes of Capua and Salerno. The Norman adventurers made it a stronghold, for the purpose of keeping in check their Lombard foes, as well as their Greek enemies. The town was several times restored to the popes by the Norman adventurers from Normandy, attracted by the report of Ralph's success. The emperor Conrad, in 1234, made Ralph count of Aversa and its territory. The country remained in the possession of the Norman kingdom, founded by the offspring of Tancredi of Hauteville, although occasionally injured by foreign invasions and civil war, still maintained its rank as a town of considerable importance. It is now a bustling, lively place, with about

studied Mohammedan jurisprudence under the guidance of his father; theology and philosophy under Eben Sayegh (Aven Paco) and Tofail; and medicine under Avenstror, the father. His diligence was indefatigable; he devoted the greater part of his time to the study of philosophy and medicine, and turned to the perusal of works of history or poetry only by way of recreation. As a Musulman theologian, Averroes adopted the creed of the Asharites, the main principle of which is, that God, being the universal cause of every effect, is not interested, nor can he know one time have some foundation in truth, as the whole of this region is of volcanic formation, and emits mephitic exhalations; indeed, the lake itself is the crater of an extinct volcano. Hannibale is reported to have gone to Lucernum (xrvii. 155), and Agrippa has paid several visits to Avernus, under the pretext of sacrificing, but in fact with other views. But in the time of Virgil, a communication was opened between Avernus and the neighboring lake Lucernum, which, itself communicating with the sea, was considered by Agrippa in a fine harbor, called Portus Julius. The Lucrine lake was filled up by an eruption which took place in 1538, when a conical mountain rose in its place, which is called Monte Nuovo. Avernus has thus become again a separate lake; and the muddy pool half filled with reeds, and close to the sea-coast, is all that remains of the famous Lucernum. On the southwestern bank of Avernus stands a large and lofty octagonal building of brick, vaulted, and with niches in the walls, supposed by some to have been the Boeotian bath; it is now surrounded by vine trees. Farther to the westward is the entrance to a subterranean passage, called Grotta della Sibilla; it divides into two galleries, one of which opens to the neighboring sea-coast near the pool of Lucerna; the other branches to the right in the direction of Cumna, which place it once reached: Strabo informs us that it was made by Cocceius, under the direction of Agrippa. This last passage has become obstructed by the solidification of the earth. There are several springs in the immediate neighborhood of the lake of Avernus, some of which are used as baths. The most celebrated are the hottest which are close by the sea-shore, and consist of galleries worked through the earth and terminated by a basin or fountain, in which the water strongly impregnated with sulphur, so hot as to boil eggs immersed in it, and the vapoors of which fill up the whole place. Persons resort here for the purpose of taking vapour-baths, the efficacy of which in several complaints has been ascertained. The ruins of Cumna are about one mile west of Avernus. The air of the country about Avernus and the Lucrine pool is wholesome in summer. (See Sirinus, p. 144; and Bai.)

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the junction, the stream of the Aveylon turns again to the west, and falls into the Tarn (a feeder of the Garonne), a little above Moissac. The dimensions of this river, as measured on the Map of France published by the Society for the Diffusion of Useful Knowledge, are as follows:—From the source to the junction with the Visat, 17 or 18 miles; from then to the junction of the Visat with the Vézère, 55 miles, making the whole length about 155 miles. The length of the Dordogne is about 20 miles; that of the Alouet about 25 miles; and that of the Visat about 80 miles. The Dictionnaire des Géographes, 8th. &c. of Expilly, gives the length as 36 leagues, which is about 100 miles. But the measurement on the map is in all probability more correct.

The current of the Aveylon is very rapid, and it frequently overflows its banks. The navigation commences at Nogrepelisse, about 20 miles above the place where the river falls into the Tarn. The Roman name of the Aveylon seems to be unknown.

AVEYRON, a department in France taking its name from the river Aveyron, which rises within its boundary, and traverses it in a direction for the most part east and west. The department is bounded on the N. by that of Cantal; on the N.E. by that of Lozère; on the E. by that of Gard; on the S.E. by that of Hérault; on the S.W. by that of Tarn; on the W. by that of Tarn et Garonne; and on the N.W. by that of Lot. It is divided into four arrondissements, namely, the N.E., N.W., S., and S.W. The N.E. and S.W. sides are the longest, each being about seventy-five miles in length: the N.W. side is sixty-three miles, and the S.E. thirty-two; and the area of the department is about 3,400 square miles; it ranks fifth among the departments of France in point of size, and is only about 50 square miles less than the two English counties of Norfolk and Suffolk. The population in 1832 was about 80,000, which gives nearly 100 to the square mile.

The western part of the department is the lowest, and contains some plains of considerable extent. The eastern part is mountainous, being traversed by branches from the chain of La Margeride, which unites the mountains of Auvergne with the Cévennes; the Cévennes themselves form the south-eastern border. From these two ranges of mountains flow the streams which traverse the department, some having their source within the boundary, and others coming from the bordering départements. The Tarn et Garonne, one drawn nearly from N. to S., ninety miles, and the other (drawn from W.N.W. to E.S.E.) eighty-four miles.

The department is about 123 miles N.E. of Paris, on the road to Mons and Brussels. Though the capital of an arrondissement, it is a small town, not having much above 4,000 inhabitants; but it has establishments for refining salt, manufacturing soap, and especially taking tallow on the Tarn, and working it in boors' heads. Before the revolution the church was collegiate, and there were two religious houses, a high-school, and an hospital. Whether the last two establishments still exist, the authorities which we have consulted do not inform us.

The interior of the town is ill-built, and the streets are ill-arranged. The fortifications were repaired and strengthened by Vauban.

Aveyron was founded in the eleventh century. It came into the hands of the kings of Spain of the Austrian family, and was ceded to France by the treaty of the Pyrenees in 1659.

The arrondissement is separated from the rest of the department by the hills which bound the upper part of the basin of the Samue. Many iron works, potteries, and glasshouses are scattered over it. Its population in 1832 was 127,353.

AVEYRON, or AVEIRON, a river in the south of France; it is one of the many whose waters ultimately swell the stream of the Garonne. It rises in the department of Aveyron, in the branches of the Cevennes, near the town of Severac, and flowing towards the west, receives, on the right bank, the little river Serre; after which it continues down the Garonne, and finally falls into the Garonne. Near that town it winds very much. From Rodonz it flows on, still to the westward, without receiving any material accession, until it reaches Villefranche, where it receives another small river on the right bank, the Alouet. Below this town it receives the little stream of the Sorene on the left, and just below on the same side, the larger river, the Visat. This last rises from the same ridge as the Avevron, not far from the springs of the latter, and pursuing, like it, a western course, joins it at the place mentioned above. After
northern, bounded by the Lot, is occupied by the mountains of Languedoc, which have been already mentioned, and which extend more than thirty miles in length. They are subject in winter to heavy falls of snow, which penetrate the ill-built habitations of the country people. The winter is long, and it is not till the beginning of May that the snow begins to melt; but in the mountainous districts they present the most beautiful verdure, and flocks and herds assemble from other parts of the department, where a scarcity of grass is felt. The pastures are divided into 'mountains,' and the extent of these is designated for which reason they are called — as a mountain of thirty or forty cows (montagne de trente, de quarante vaques). From the milk of the cheese of good quality, called Guoille cheese, is made. The cattle are not turned out to pasture during the winter, and are fed on hay, oats, and buck-wheat (sarrasins). September is the month of harvest, but it is often prolonged into October. In summer, the mountains, rising in the form of an amphitheatre one above another, and covered with a rich turf, are a beautiful prospect. The air is unfavourable, except to those who are habituated to it. The valleys contain many villages, and even some small towns (bours). The inhabitants carry on trade in cattle and cheese. Those of the town of Ariège are principally placed in the district, where the surplus of their oaks for the wines of the department of Lot. When wine is dear, they are peaceable and well-behaved; but when the vintage is abundant, quarrels frequently arise, which are so much the more dangerous, as not all the arms are acclimatized to carry a small dagger. Fruit-trees are almost unknown.

These mountains are of volcanic origin; and between Guoille and the village of Naves basaltic columns of various forms are described by the Abbé Dufour in his 'Geologie et Statistique.'

The district bounded by the Lot on the one hand, and the Aveyron on the other, contains the principal mineral wealth of the department. Near Aubin, or Aubin, a small deposit of coal has been worked; and some miles off, near the village of Chaste, the coal is of considerable importance. The coal is used for fuel in the neighbourhood, and supplies many of the forges in the district: a considerable quantity is also sold at the Bozouls. (Encyclopédie Méthodique, Physique et Géographique, vol. 1, p. 72.) The abundance of the mineral, and the ease with which it may be obtained, have led to a very negligent and inartificial manner of working it. Individuals commence mining in the simplest way, and abandon their works when they cease to yield a profit.

In the midst of the coal district of Albin are the mineral waters of Cransane, which are in good repute, and much sought after. These mineral waters, the burning mountain of Fontovioule, and several other forges, were set on fire by some accident, continuing burning. An elliptical opening in the earth, like the crater of a volcano, renders the combustion visible at night to those who can sufficiently brave the heat and smoke to approach it. The plants near the opening are languid and unhealthy. Fire, ochre, pyrites, rock crystal, and marble, are found in the same district. Of the two alum mines in the department, one is at Fontoyne, near Aubin. The produce of these mines is sold to the different forges of Albin and Castel, and in the interior of that of Aveyron. Copra is procured from the alum mine of Fontoyne.

Between the sources of the Aveyron and the Tarn rises the group of mountains of Levezou. The principal range runs from N.E. to S.W. and that the fields become green. One of these branches runs along the left bank of the Aveyron, towards which it has an almost perpendicular descent, and is nearly a desert. On the other side it has a gentle slope, and the bottom of this slope are villages and habitations. The country is fertile, corn and vines are common, and in the Baudot these are succeeded by calcareous strata, which extend to the shore of the Mediterranean. The district of the Levezou is one of the least populous and least civilised districts of the department. The climate is rigorous, and the soil barren. Small widely-spread patches of cultivated land produce oats and rye; but it is said that the farmer degenerates. The pastures are covered with fern, and broom (Rougots and genêts) and prickly shrubs. It is only in the valleys that trees grow: the cattle and sheep are lean and miserable, and the ewes and cows yield little milk, and that little of inferior quality. Their flesh also is poor. In the quality of its vegetation and its animal productions, this district forms the boundary to the district of Aubrac. The snow falls in great quantities, and melts slowly. Sometimes the wind separates the flakes into particles as fine as dust, and it then penetrates by the smallest openings into the houses.

The extremity of the district south of the Tarn, in the neighbourhood of St. Jean de Brueil, the Cevennes mountains yield an abundance of excellent stakes, good plaster or gypsum, and a kind of fullers' earth. A little west of this part, between the rivers Dourbe, Cénon, and Sorgues, rises the elevated plain of Larrac or Larzac, between 2460 and 2500 feet above the level of the sea. It is sustained on the S.E. and S.W. by the Cevennes and the mountains of Caune, and overlooks the valley of the Tarn on the one hand, and the Herault on the other. It is covered with huge square blocks of calcarous strata, which separate at the top, and white and friable at bottom, which some geologists have supposed to be the relics of supercurrent strata. These blocks, which have neither moss nor heath on their surface, present a distance that is almost surpassing imagination. This plain, where the traveller may pursue his way and not meet with a house, or a tree, or a brook, for several miles, furnishes pasturage to vast flocks of sheep. The dryness of the atmosphere, and the aromatic plants which abound, sage, thyme, and juniper, are excellent pastures, with flavour of the mutton fed here, and render the wool superior to that of almost any other department. It is fine and silky, like that of the sheep of the department of Pyrénées-Orientales; but at the same time so greasy as to lose half its weight on a fine day. The finest fleeces are sent to Elbeuf and other manufacturing towns in the northern part of France. The similarity of climate, vegetable productions, and soil, which exists between this district and the northern district of Spain, point out a suitable place for the naturalization of the Spanish sheep.

From the village of Roquefort in this neighbourhood, the Roquefort cheese derives its name. It is made of ewa's milk, and is very delicate; a little goats' milk is added in many places. The quantity of cheese that one cow would alter the quality of the cheese. The cheese of this breed closely resembling the merino. They yield abundance of milk; and it is said that 100,000 of them furnish the supply for making the Roquefort cheese. It is sold in cellars, and when the weather is up it all remains in the large stands, but not dug in. The temperature of these cellars (about 54° or 55° of Fahrenheit) varies little all the year round; and the cheese stored here acquires that peculiar charm which the Celliers recommends. It was in great repute eighty hundred years ago; and is still exported into most countries in Europe. The village has not more than 300 or 400 inhabitants; but they export yearly 15,000 to 18,000 cts. Some cheese, sold under the name of Roquefort, is made at Millau.

Some beds of coal are worked in the district of Larzac.

The atmosphere of the department is generally pure, and the sky clear; but the temperature varies considerably in different parts. The snow remains on the mountain-tops half the year, and the winds are strong, and blow down large trees. The prevalence of the south wind gives to the branches of the trees a general direction towards the north. This wind brings rain, and the dust, to the distant districts of the department; and the west wind does all to the others.

The quantity of waste land is more than one-third of the surface. The principal wealth of the department, as may be inferred from the foregoing account of parturient soils, is in the immense numbers of oil-seeds, mules, oxen, sheep, goats, and swine. The number of sheep was given in the Geographic Universelle of M. Malus Bruni (see last edition, Paris, 1, 12, 13, &c.) at above 600,000, for part to Spain, are reared in considerable numbers. The wealth of the soil is never severe; it is alleviated by alluvial soil; and the grain is raised sufficient for the consumption of the department: wheat, however, is not much
cultivated. Wine, which, for the most part, is of ordinary quality, is made only in the eastern districts. A considerable number of mulberry-trees are grown for the silk-worms. The sides of some of the mountains are covered with vast forests of olive-trees, and sometimes attack the herbs; but the cows instinctively range themselves round the stalls and repel them with their horns sometimes even pursue them. The Dictionnaire Universel de la France (Paris, 1804-5) speaks of iron and copper mines; but Malte E. Esquieu assures us, that with the exception of Bokhara, where the department is still unworked, and he adds that the produce of the coal and alum mines might be vastly increased. Besides the mineral waters of Cnana, already noticed, there are warm baths at Silvan, in the mountainous district, and in the province of Amu-Darja. Their temperature is 40° of Reaumur, or 123° of Fahrenheit.

Silks, woollens (especially serge, linsey-woolsey, and grey cloth), and paper, are manufactured. The streams, especially that of the Tarn, furnish the moving power for the machinery of the factories; and after their navigation commences, they also facilitate the conveyance of goods.

The chief places are as follows: — The capital, Rodz or Rhodze (a name derived from that of the people, the Roteni, who inhabited that country before the Romans), is on the Aveyron, and is a city of about 8000 inhabitants. Milhaou, on the Tarn, has about 10,000 inhabitants in the commune, and nearly 9000 in the town itself. St. Avice, on the Sorgues, has a population of 6300, of whom 4860 are in the town of Villargues. The Villages of the Asson with the Aveyron, has about 9500 inhabitants, of whom above 7000 live in the town itself; and Espallon, on the Lot, has more than 2000 in the town, and 3500 to 4000 in the commune. [See Espallon, Milhaou, Rhodze, and Villargues.] The communes are the smallest municipal divisions; and, for extent, may be compared with our parishes.

St. Avice having been omitted in its proper place, we may add St. Genie d'Olt, or St. Geniez de Rivedoulet, on the right or south bank of the Lot, a neat and small town of 4000 people who manufacture woollen stuffs; it was the native place of the Abbé Raynal. Severac-le-Château is built on a conical hill, of a scanty castle, which has an antiquity of 2000. Entraygues, at the confluence of the Truyère and the Lot, where the navigation of the latter river commences, carries on a considerable timber trade, and was formerly a place of some consequence as a fortress. La Giouile, on the little river Selva, has 3900 inhabitants, who manufacture cloth and worsted stockings. It is on the slope of a basaltic mountain above 3500 feet high. Valres, an insignificant place near St. Avice, was a bishopric up to 1685.

This department constitutes the diocese of Rhodze; the bishop is a suffragan of the archbishop of Alby. It is under the jurisdiction of the curé royal (assize court) of Montpellier, and is in the ninth military division, the head-quarters of the department being at Montpellier. It returns five deputies to the Chamber.

It nearly coincides with the ancient district of Rouergue, a sub-division of the province of Guienne. (Encyclopédie Méthodique, Physique et Morale du Monde, 1812.)

AVICENNA, named ABEN SINA by Hebrew writers, but properly EBN SINA, or, with his complete name, called SHEIKH ABD-RAIYIS ABU ALL AL-HOSSEIN

* These particulars are taken from the Dictionnaire Universel de la France, which was published thirty years ago; and the increased population indicates that the number of cultivated acres has also increased. It was as given above.
and the Ἀνάνια: the titles of many others may be seen in
Casiri (vol. i. p. 270). Among them, the Ἀνάνια acquired
the greatest celebrity, and became, even in Europe, for many
centuries, the standard authority in medical science, less on
account of original merit, in which, according to Sprangel,
it is very deficient, than on account of its judicious arrange-
ment, and the comprehensive view which it afforded of
the doctrines of the antient Greek physicians, at an age when
the knowledge of the Greek language was very scanty. It
was translated into Latin by Gerardus Cremonensis, at
Toldeo. This translation, revised and accompanied with a
commentary, by Jacobus de Paribus, was edited for the
first time in 1498, at Lyons, in four large volumes in folio,
by two German, Johannes Trechsel and Johannes Klein;
several other editions have since appeared, the latest at
Venice, in 1585, fol. An edition of the Arabic text of the
Canon was published at Rome, 1593, fol.

(See Ebh Kathlan, art. al-Hossein ben Sina; Abulharaj,
Historia Dynastiarum, ed. Pocock, p. 329-333; Bar Hebræu,
Chronicon Dynastiarum, t. i. p. 231-233; Casiri, Bibliotheca
Arabico-Hispana, t. i. p. 268, &c.; Hottinger, Bibliothecas
Quadrupartitas, Tigrum, 1644, 4to, p. 258-261; Sprengel,
Histoire de la Médecine, trad. par Jourdan, t. ii. p. 203, &c.
We have not had an opportunity of consulting Vandel’s
translation of an account of Avicenna’s life by Ebh Jolol
Jorjani, Venice, 1593, which is cited by Sprengel.)

AVICULA (zoology), a genus of marine conchifers, or
bivalves with unequal valves, in which Sowerby, with much
show of reason, includes the genus Meleagridina, also formed
by Lamarck. The shell in both is foliaceous externally; and
internally, of a brilliant pearly lustre. The left-hand valve
is contracted and notched posteriorly; and so is the right,
but very slightly. Through this sinus passes the byssus, by
which they are moored to rocks and other marine bodies.
The ligamentary area is marginal and broadest in the centre;
and there is generally a small tooth in each valve near the
umbones. This is most conspicuous, generally speaking,
in Avicula (Lam.), but is not always found, while it is often
present in Lamarck’s Meleagridina, though it is sometimes
absent. The muscular impression is nearly central, some-
what orbicular and large.

Avicula, then, as characterized by Sowerby, will comprise
two sections: the first including those species which have
their base, or hinge-line, considerably prolonged; the
second embracing those which are without that prolonga-
tion—in other words, the Meleagridina. Both sections are
the inhabitants of warm climates. Avicula macroptera may
be taken as an example of the first section.

Avicula macroptera

Avicula marmorifera (Meleagridina marmorifera, Lam.,
Mytilus marmorifera, Linn.), commonly known as the
pearl-oyster, by which name various species are
derived, will afford an illustration of the second section.
The shell itself is imported in great quantities, for the
manufacture of the nacre, or mother-of-pearl, into buttons,
knife-handles, paper-knives, &c.; but its great commercial
value rests on the pearls which it contains. For these beau-
tiful productions, which may be considered as extrava-
стант ilace, there are fisheries in both hemispheres. The pearl
of great price, however, is found in the East, where the
principal fisheries, at Ceylon, Cape Comorin, and in the

Persian Gulf, are carried on by means of divers. Captain
Percival has given so lively an account of the pearl-fishery
at Ceylon, that the whole busy scene is brought before the
reader. (See Pearl.)

AVIÈNUS, or AVIANUS, sometimes written ANIA-
NUS. As it is not within the plan of this work to allot
much space to the discussion of minute and obscure points
of literary history, we shall not inquire which is the true
way of writing the above name, or whether the different
forms belong to one or two persons. Under one or other
of them we have a collection of Æsopian fables in Latin
elegiac verse; translations of the Phenomena and Pro-
nostra of Aratus into hexameters; a translation of the
Periplus of Dionysius, entitled ‘Descriptio Orbis Terræ’;
and a poem in iambic verse, entitled ‘Ora Maritima,’ of
which only the first book remains, containing a description
of the Mediterranean, from the Straits of Gibraltar to Mar-
seilles. The fables commonly bear the name of Plautus Aran
us, the other works that of Rufus Festus Avienus. The reader
will find the identity of these two persons largely disused
in the dissertation annexed to the edition of Aratus’s Fables,
by Henry Canning, Lugd. Bat. 1731: but it requires some
patience to wade through the mass of heterogeneous
matter there collected. The translations from Aratus will be
found in many of the editions of that author, and especially
in that of Bubole, Lips. 1844. The ‘Descriptio
was edited by Frisesmann, Amst. 1786, and, together with
the Ora Maritima, is contained in the Oxford edition of the
Minor Greek Geographers. The author of these works ap-
ppears to have lived about the year 400; Aratus the fab-
ulist is placed, by those who deny his identity with Avienus,
about 240 years earlier.

AVIÈNUS, GENNAADIUS, was a leading senator of
his day (see his character in the Letters of Suidas Apo-
linaria, i. 91) and colleague of Valentinian in his 7th con-
coemate, A.D. 450. Two years after he was sent on the embassay
which induced Attila to pause in his march against Rome
(See Attila; Sirmund, Notes to Suidas, Par. 1852; Gibb.
ch. xxxv.)

AVIGNON, a celebrated city of France, in the depart-
ment of Vaucluse, of which it is the capital. It is estab-
lished on the left bank of the Rhône, just above where the riv-
e Dilongue falls into it; and is 421 miles S.S.E. of Paris, 43° 34′ N. lat., 4° 46″ E. long.

Avignon (the Latin name was Ariminum) is a very
ancient city, and some writers have ascribed its origin to
the people of the Greek colony of Massalia, now Marseille.

The figure represents a young individual. The shell grows to a large
size, and then the defence becomes insensible.
According to another opinion, it was the capital of a Gallic tribe, the Cavares, in whose territory it was doubtless situated, and from which it was called Av-eni Cauvarum. It came into the hands of the Romans at an early period of their dominion in Gaul, and a Roman colony appears to have been established here. Upon the downfall of the Roman empire in the west of Europe it was possessed by the Burgundians, and afforded to the king of that people a secure asylum from the power of Clovis, king of the Franks, who, after he had twice invaded the province twice in succession, at one time as a guest, and at another for perhaps a short time, to the Visigoths, certainly to the Ostrogoths, Franks, and Saracens. The Saracens took it twice, but could not retain it. Afterwards it came into the hands of the Franches, who made it the object of contention between the Counts of Provence and Toulouse, who at last agreed to hold the city conjointly, and to divide its dependencies between them. Part of the dependencies was held by the Counts of Forez and Lavaud; but the last of that family bequested his portion to the citizens of Avignon, who were enabled by this accession to their resources, and by the disensions of the Counts of Provence and Toulouse, to acquire a kind of independence. But when the domains of the two last-mentioned nobles came to an end, the Pope claimed the right of choosing the successors of the Counts of Provence and Toulouse. The Pope intervened in the dispute between the Counts of Provence and Toulouse, and appointed his own nominee as successor. The Counts of Provence and Toulouse were thus deprived of their ancient rights, and the Papal States were thereby established.

The city was a dependency of Provence until the 13th century, when it was granted to the Popes. The city was freed from the jurisdiction of the Counts of Provence and became a dependent of the Pope. It was a center of commerce and culture, and its influence extended far beyond its borders. The city was the center of a rich agricultural region, and its products were in great demand. The city was also a center of religious activity, and many important religious figures lived and worked there. The city was a center of learning, and many famous scholars and artists lived and worked there. The city was a center of political activity, and many important political figures lived and worked there.

The city was the center of many important religious and political events. It was the site of many important religious and political events. The city was the site of many important religious and political events. The city was the site of many important religious and political events. The city was the site of many important religious and political events.
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and that of St. Bernard, the architect of the bridge over the Rhône. The church of the monks of St. Anthony contained the tomb of Alain Chartier, a French writer of eminence in the fourteenth and fifteenth centuries. An ivory cross, 28 inches long, of most exquisite workmanship, a production of the oriental schools, is in the church. This is considered one of the greatest curiosities in the city.

Avignon is still remarkable for the number of its charitable and useful institutions. It has an infirmary for soldiers who are in the forces of the king of France, a lunatic asylum; a high-school (collège royal); a seminary for the education of priests; a society of the friends of the arts; an agricultural society; a collection of paintings and antiquities; a museum of natural history; a library containing 27,000 volumes. There is also a learned society called the Academy of Vaucluse. The present theatre was erected in 1825.

The town is clean: the houses are of stone and well-built; but the streets, in part at least, are narrow and crooked. The town is subject to violent winds. Avignon contains many relics of its former greatness. The papal palace, which is adjacent to the cathedral, is an enormous mass of Gothic architecture, and has been for some time and is still used as a public prison. The fortress now is applied to a similar purpose; it has a fine front.

The trade of Avignon has been making considerable progress for some years past. Silk stuffs are the chief articles manufactured; and there is a cannon foundry; also a flour-mill. The manufacture of leather is now carried on in the city.

The chief productions of the neighbouring country appear to be madder roots and silk. The number of mulberry trees has increased very greatly of late years. A great part of the wine of Avignon is consumed on the spot at the port of Marseilles, and to and from which goods are conveyed on the Rhône by way of Arles. The population of Avignon in 1832, was about 30,000 for the commune, or 26,000 for the town itself. In 1843, Exposit computed them at 32,000. Avignon has 1,350 houses, 250 dwellers who live by themselves in a quarter called the Juiverie, or Jewry.

The bishopric of Avignon is of early date. The town was founded in 1207, by King Saint Louis, son of Simon the Cyprian, who carried our Saviour's cross, the first possession of the pope, and who was acerbon of the plantation of Christianity here to Martha, the sister of Lazarus, and Mary Magdalene. The bishop was successively a suffragan of the Archbishop of Vienne and of Arles; but in 1474 or 1475, Pope Sixtus IV, at the instigation of his nephew, Cardinal Julian de la Rovère, who was then bishop, raised the see to an archbishopric. The suffragans of this new metropolitan were the Bishops of Carpentras, Cavaillon, and Vaison, who were also taken from the see of Arles. The Bishopric of Avignon is now an auxiliary and suffragan to the Bishop of Avignon, the archiepiscopate still retains his rank; and has under him the Bishops of Nimes, Valence, Viviers, and Montpellier. The department of Vaucluse forms his diocese.

Several councils were in the middle ages held at Avignon, but they do not appear to have been general councils. A council of the archbishop and his suffragans was held in 1727. In 1903, Pope Boniface VIII erected a university, but it was not now in existence. It enjoyed considerable reputation in its day.

It may be observed that while the city and territory were subject to the Pope, the river Rhône was always under the dominion of the King of France.

Avignon is remarkable for the variety of its inhabitants and its character. Several illustrious persons, both male and female, were natives of this place; among them Laura, the mistress of Petrarch; the Chevalier Polard, a writer on military affairs; Claude Joseph Vernet, the painter; and the Abbé Poudenas, celebrated puppeteer. The elevation of Avignon comprehends 174 square miles, or 111,340 acres, and contains a population of 66,000 inhabitants. (La Grand Dict. de France, by Abbé Exposit, 1847.)

AVIJA, a district in Old Calabria, containing the territory situated between 40° 15' and 40° 18' N. lat., and 15° 0' and 15° 30' W. long. It is bounded, on the east, by the province of Sepoua; on the west, by that of Salernia; on the south, by the Ionian, and on the north, by Vailo- dolo. The territory of this province is the most elevated in the central part of Spain, particularly in its southern ex-

travesty, where it is very mountainous. The principal of these mountains are the Sierras de Avila, the direction of which is, in general, from east to west. There also is the great Serra de Avila, a truncated cone, the summit of which contains a surface of 3 square leagues, about 78 English square miles. This great mass of ground is almost barren, and serves only for pasture and fire-wood. The southern part of this province being so mountainous is extremely cold, and very thinly peopled. The northern districts are milder, more productive, and better inhabited; the climate is healthier, and the land is more fertile, the produce is in fuel, which is supplied from the forests in the south.

There is a lake, of small extent, near Don Jimeno; and two still smaller lakes, called Los Salmoces, not far from Piren-Banso.

The rivers of this province are very incommodable. The Adaja, which is the principal, has its source near Villatuero, 20 miles west of Avila. Its course is from west to east as far as that city, where it forms an angle, and taking a direct line from south to north, after being enriched by the Balbuna, empties itself into the Duero, in the province of Valledolid. Its course is about 34 miles. The Alberche springs near Piedrahita, on the western boundaries of the province, flows first south, then east, and lastly south-west, and ends near the town of Tagus, in the province of Toledo. Its course through the province of Avila is about 60 miles. The other rivers, or rather streams, are not deserving of mention; with the exception of the last-mentioned, all flow into the Duero, forming the inclination of the land, which in general is to the north.

The area of this province is, according to Miliano, 176 square leagues of 20 to a degree, which makes 1574 geographical square miles; and its population 106,716 inhabitants, distributed as follows: 25,786 through the city of Avila, to which 41,050 dwellers are added; 30,000 are employed on the farm; 15,000 are employed in the manufacture of earthenware and glass; 3,500 are employed on the fields of Tordesillas; 2,500 are employed in the manufacture of leather; 2,500 are employed in the manufacture of wool; and 3,000 are employed in the manufacture of silk.

More than half the lands of the province are uncultivated. The part which is cultivated, and which does not consist of pasture-ground, produces grain, fruit, oil, wine, and flax. The unfruitful state of agriculture in this province was partly owing to the circle of the farthingale, which serves to distinguish the greater part of the lands is either vested inalienably in ecclesiastical bodies or is fettered in the hands of private families by strict entails. (See Miliano, and also the Estadística Territorial de la Provincia de Avila, by Don B. Borgias y Tarrega.)

AVILA, the capital of the province of that name, is situated in a plain elevated 543 feet above the level of the sea, on the right bank of the Adaja, 4° 44' N. lat., 4° 36' W. long. It is surrounded by old walls, which were built in the time of Alfonso VI. of Castile. The streets are very irregular, but well paved and clean. The houses are in general built of granite of a dark colour, which circumstances gives to the city a gloomy aspect. The town is ornamented with many fountains, and the church of St. Mary is in the suburbs. At a certain distance the city presents an appearance of grandeur, owing to the great number of towers and steeples which rise majestically over its old walls.

Avila is an episcopal see, and has a chapter, a bishop, seven dignitaries, twenty young men, and seven women, who are called chaplains. The bishopric contains 628 parishes. The city has eight parishes, eight convents for men and eight for women, an hospital, a seminary, and a university in the convent of Santo Domingo. The population is 4876.

Avila has the privileges called Pola, which are the standard measure for grains, known in Spain by the name of Marco de Avila.

This town has been the theatre of many remarkable events; among others, that of the murder of the weak Enrique IV., who, on the 5th of June, 1449, was solemnly degraded in the public square from the royal dignity, and his brother Alous proclaimed king in his stead. There are at Avila nine manufactories of wool-stuff, five of cotton, and several other manufactures of silk and wool. These manufactories are worked by individuals, besides the royal manufactories of cloth, the machinery of which is moved by water.

Avila is the birth-place of Santo Thomae, the founder of the Carmelites, whose writings are so highly valued in Spain as the purest and most elegant. (See Miliano: Antillen: Estadística de la Provincia de Avila, by Don Bernardo Borgias y Tarrega.)

AVISON, CHARLES, a musician of considerable com-}
under whom he acquired his knowledge of score-writing. He settled at Newcastle-upon-Tyne, having accepted the place of organist of the principal church in that town, where he continued till his death. In 1732 he published his Essay on Musical Expression, a well-written work, which displays much facility, and no small share of that taste which arises out of good sense and deep reflection; but he was not free from prejudices, and laboured in vain to exalt Marcello and Gemmianini at the expense of Handel. Many, however, of his opinions will bear the test of strict examination, and much of what he has advanced, especially in favour of simplicity in choral music, will be admitted to be just, when a little philosophy is called to the aid of musical criticism. His essay was answered by Dr. William Hayes, of Oxford, who distinctly exposed two or three errors which had fallen in expectation, in the rules of musical composition. But the learned professor made his attack with too much asperity, and was, in a few instances, over-strenuous in defending certain laws of harmony which even then were beginning to be slighted, and have since been abrogated in practice. Avison, in the following year, replied to Hayes, in a short pamphlet containing much sarcasm and little argument; and here the matter dropped: but his work continues to be read, while that of his antagonist has been almost forgotten.

The Mayday of the adaptation of Marcello's Psalms to the English version, which Garth of Durham undertook and published, much assisted by the former. His own compositions consist chiefly of five sets of Consorts for a Full Band, forty-five in all, producing every possible production, in which the instrumental parts were nevertheless very favourably received, and one or two of them are still performed at the Antient Concerts, where the distinctness of their melody always secures to them a place among the choirs, among which Avenola, called by the Italians Valona, or La Valona, a town in Albania, on the gulf of Avíona, which is formed by the headland known to the Greeks and Romans as the Aero-Ceranian Promontory, and called at the present day Còrso, Chios, or Sicilia, Cape Tongue, is the termination of the Aero-Ceranian Mountains of the antients, now the Mountains of Khimara. The gulf of Avíona is a deep recess, in proportion to its extent: the town is not at the bottom of it, but on the left hand as you approach it; it was an important place in the time of the French wars, and is now almost entirely colonized by the Albanians.

The long connexion of Avíona with Italy has given it to the appearance of an Italian town. Dr. Holland, on his visit, observed the Italian style of building in the street along which he passed. The population is now, however, almost entirely Mohammedan. Although there is a Greek Bishop of Avíona, yet the number of Greeks is few, perhaps about this 1000. The headland known to the Turks as Lavina, whose superior is the Bishop of Monte Negro. At the time of Dr. Holland's visit (viz. in 1813), and when Mr. Hobhouse was in Albania (in 1809), it supplied Upper Albania with such articles of Italian and German manufacture as are in use among the Albanians; gunpowder, paper, and Calabrian capotes. The exports were timber, gull, nails, wheat, maize, wool, oil, and mineral pitch from the mines of Selenitz, on the left bank of the Vlora, or Bousina, about 8 miles to the N.E. of Avíona. Dr. Holland counted the numbers of the inhabitants near 1000, and Mr. Galt had previously estimated the inhabitants at 5000. There were six mosques and one Greek church.

Avíona was known to the antients in the name of Aulon. It is in lat. 40° 59' N. and long. 18° 29' E. from Greenwich. Avíona was in the pachalie of Berat [see Berat]; and Ibrahim Pacha of Berat, who was deposed and imprisoned by Ali Pacha, retired here after the surrender of his capital, with his treasures and treasures, and held over some of his adherents and retainers until after he had escaped to the mountains, he fell into the hands of his enemies by treachery.

Dr. Holland describes the seed of asphalt or compact asphalt, which is obtained at Selenitz, as a substance extending over a surface at least four miles in circumference. The pitch appears in various places on the declivity of the ravines which intersect the district, and is occasionally worked in such situations, but more frequently by shafts sunk down from the surface. It is covered by a deep mantle of sand, clay, and earth and clay, by beds of shale, and by the thickness of which varies in different places. Dr. Holland described it into one shaft which was only 40 feet deep, 30 feet being cut at the bed of pitch. At this depth, and while having yet a floor of the mineral, the workmen began to tunnel in a horizontal direction: but this mine was of a peculiar origin, as the workings had yet advanced only a few feet from the shaft. The mine, which cuts the bed of pitch (or beds, for it is not ascertain whether it is one continuous bed or not) was 70 or 80 feet thick. The colour of this pitch approaches to black; the smell is strong and unpleasant, and has a specific gravity of 1·4 or 1·5. It becomes viscid, or nearly fluid, when heated, and burns with a tolerably bright flame. The property of the mines is vested in the Grand Seignior, Ali Pacha paid a rent of 10,000 pastures per annum. The value of the pitch is about 100 ducats a barrel, and six or seven cargoes were (about 1812) annually exported, chiefly to Malta and to different Italian ports. Taking the pasture of Selim of 1801 as the standard, 1000 pastures are equal to nearly 6500.

AVOCADO PEAR. [See PERSIA.]

AVOCAT, a French word, derived from the Latin advocatus, and corresponding to the English 'counselor at law.' [See ADVOCATE.] In French law language the avocats, according to the Baron de la Fède, distinguish the Mr. de la Fède, from the barristers, and 'avocats consultants,' called also 'jurisconsultes,' a kind of chamber counsel, who do not plead in court, but give their opinion on intricate points of law. Under the old monarchy the avocats were classed, with regard to their profession, in ten different ranks, into various grades, and divided into chambers, an avocat au conseil, who conducted and pleaded causes brought before the king's council; they were seventy in number, and were appointed by the chancellor; they were considered as attached to the king's council; and 'avocats généraux,' who were pleaded before the parliaments, and other superior courts, in all causes in which the king, the church, communities, and minors were interested. At first the 'avocats généraux' were styled 'avocats du roi,' and the other barristers who pleaded in the councils were called 'avocats de la cour,' but towards the end of the eighteenth century, this division was abolished. Now the avocats are styled 'avocats généraux,' and three or four were appointed to each superior court, while the counsel who filled the same office before the inferior courts assumed the name of 'avocats du roi.' (Repertoire Universel de Jurisprudence, and Dictionnaire de l'Académie.) "Avocat fiscal" was a law-officer in a ducal or other seignorial court of justice, answering to the avocat du roi in a royal court.

At present there are in France 'avocats au conseil du roi,' as formerly; 'avocats généraux,' of whom there are five at the Court of Cassation or Supreme Court, four at the Cour Royale of Paris, besides substitutes, and two or three at each Cour Royal of the Paris, besides substitutes. The avocats généraux, as such, are in the king's council; but the barristers are classed into 'avocats à la Cour de Cassation, who are fifty in number, and who conduct exclusively all causes before that court; and 'avocats à la Cour Royale, who plead before the various Royal courts, and are bachelors at law, and must have taken the oath before the Cour Royale. There is a roll of the advocates practising in each court. Candidates are admitted by the Council of Discipline after a probationary term. The members of the council are elected by the advocates inscribed on the roll. The "avocats" (attorneys) also plead when the number of advocates is not sufficient for the dispatch of business. (Almanach Royal et National.) The word 'avocé,' in canon law, meant the protector or guardian of some church, abbey, monastery, or collegiate church, and the ecclesiastical profession. In the middle ages he was generally some feudal lord who took care of the temporal interests of the community, and defended them either in court or field; he disposed of justice in the name of the ecclesiastical power, in all places under their jurisdiction, and commanded the forces assembled in their defence. In German he was called 'kastrigt;' the name occurs often in the history of the middle ages.

AVERDUPOIS, or AVERDUPOIS, the name given to the common system of weights in England, now applied to all goods except the precious metals and medicines. Thus, a pound of tea is a pound averdupois, and contains 7700 grains; a pound of gold is a pound Troy, and contains 5760 grains. The word has been in use in France for some time as French avoix du poids, to have weight; but considering that averdupois is the more ancient mode of spelling the word, and
that the obsolete French verb aver, and the middle Latin word avera, signify to very (see Dusange. at the word Avera), it is more likely that we are to look here for the true etymology. It has also been supposed that the word is derived from avera pondersa, avera, and avera, being (on the same authority) words used for goods in general.

The ounce averdupe is generally considered as the Roman uncia. It contains 437.5 grains (N.B. there is but one grain in use amongst us), while the Roman uncia, according to Arboeuth, contains 437.5 grains; according to Chevalier, 437.5 grains; and according to Dr. Young) it is 437.5 grains; and according to Pauw, it is 437.5 grains. Whether the preceding correct or not, we cannot suppose that in any case the supposed to be verified. As our inventors do not appear to have been very attentive to small weights: for instance, in the list of church gold and silver plate delivered to Henry VIII. (preserved in the Bodleian library), nothing less than an ounce is mentioned, except only once, in which a quarter of an ounce is given.

The antient pound (now used in Scotland) was heavier than the avedupus, and weighed 7600 grains: the earliest regulations on the subject fix the Troy weight; the avedupus is mentioned in some orders of Henry VIII. A.D. 1532, and a pound of this sort was placed in the Exchequer as a standard by Elizabeth, A.D. 1588. The committee of 1758 found this pound to be 11 grains less than it should be as deduced from the standard troy pound kept at the Mint, which they attributed to frequent use; but considering the avedupus weight altogether as 'of doubtful authority,' and Troy weight as the one 'best known to our law,' they recommended the adoption of the latter as a standard, which it has accomplished ever since, though goods in general are weighed by avedupus weight.

The committee of 1816 made no alteration in the weight, but ascertainment the value of the grain, as afterwards described in the Act of Parliament 5 Geo. IV. c. 74: 'A cubic inch of distilled water, weighed in air by brass weights, at the temperature of sixty-two degrees of Fahrenheit's thermometer, the barometer being at thirty inches, is equal to two hundred and fifty-two grains, and four hundred and fifty-eight thousand two hundred and sixty parts of a grain. The pound avedupus contains 7600 such grains. From this it may be deduced that a cubic foot of water, under the above conditions, weighs 997.14 ounces, which, being very nearly 1000 ounces, gives an expeditious rule for deducing the real weight of a cubic foot of any substance from its specific gravity. For example, if the specific gravity of gold be 19.34, the weight of a cubic foot of gold is 19360 ounces avedupus. If more accuracy be required, subtract three for every thousand from the result.

The avedupus pound is divided as follows:

Grains. Dram.

2714 1 Ounce.

3479 16 1 Pound.

544 16 1 Dram.

8 pounds make one quarter.

11 pounds, or 4 quarters, one hundred weight.

20 hundred weight one ton.

The ounce is more commonly divided into quarters than into drams.

The usual contractions are as follows:

grain . . . dr. . . . oz. . . . hundred weight .

pound . . . dram . . . quarter . . . ounce . .

The phrase a large number of persons often means roughly, from all but two figures take all but three. Then, which they attributed to frequent use; but considering the avedupus weight altogether as 'of doubtful authority,' and Troy weight as the one 'best known to our law,' they recommended the adoption of the latter as a standard, which it has accomplished ever since, though goods in general are weighed by avedupus weight.

Subtract 139

When the number of hundred-weights exceeds 100, the error can never be greater than two.

That is '453.5 of the French kilogramme, and '9071 of the common French pound. That is 904 pounds are 418 kilogrammes, and 412 pounds avedupus are 410 French pounds. [See Weights and Measures.]

If decimals are employed: from a hundredth of the pound, there is a little from the result subtract its hundred weight part. The result is about one five-hundredth part too small. We give the preceding example, and another which is obvious from

17,864 lb. 112 lb.

1765 1 lb.

17 17

159 16 1 lb.

139 16

157 57 998

AVON, the name of several British rivers, the principal of which is below, and which derive their name from the antient British language, and to signify a river.

1. The Upper Avon, or the Avon of Warwickshire, is a tributary of the Severn. It rises from a source called Avon-well, in the village of Naseby, in Northamptonshire; at a short distance from the village of Naseby, in Northamptonshire, the S.W. turns, and forms the boundary between the counties of Northampton and Leicester. About twelve or fifteen miles from its source it is crossed by the Roman Watling-street at Dowbridge, near the remains of a Roman station, supposed by Mr. Ireland to be the Tripontium of Antoninus. This station is in excellent preservation, and is close to the bank of the river. It is not on the Watling-street, but about half a mile from it on the north-east side, and therefore a little higher up the river. From Dow bridge the river has a winding course of about thirty miles—is main direction being first to the west, and then to the south-west, past Rugby, Bretford, Stonelagh, and other places to Warwick. In this part of its course it receives three tributaries, which may be noticed: the Swift, the Lutterworth in Leicestershire, and the Sow (from the north-east part of Warwickshire), fall into it on the right bank, and the Leam or Leases (which comes from the borders of Northampton- shire), the River Leamington, from the left bank. From Warwick, where it flows over a large fall, the river winds gently towards Stratford, the birthplace of Shakespeare, about eight miles south-west from Warwick, by the road; but the length of the river is probably from twelve to fourteen miles. A little below Stratford the river Stour (which rises just within the border of Oxfordshire, and carries off the waters of the southern part of Warwickshire) falls into the Avon on the left bank; a few miles below the Alme (which comes from the north, and receives the waters of the Arrow at Alcester) enters it on the right bank. The stream leaving Warwickshire, enters Worcestershire, and passes on to Eveshaim, having had a course from Stratford of about eighteen miles. From Eveshaim the river takes a circuit by Pershore to Tewkesbury, and the river Severn, which is the north-west part of Gloucestershire, where it falls into the Severn. Thus part of its course may be twenty-five or twenty-six miles; and the whole length of the stream from its rise to its junction with the Severn, may be estimated at about a hundred miles.

The stream of the Avon is gentle, and its banks, interesting and beautiful, though occasionally flat. It is navigable from Stratford for vessels of about forty tons burden. Mr. Ireland states that the authority of a person who occupied the mill near Rugby for almost half a century knows that as soon as the frosts (not in all) the river freezes from the bottom. The freezing commences at the bottom of the flood-gates, which is (the miller) first becomes sensible of by the passage of the water being stopped at the point; and is presently perceived at the flood-gates, in its progress from the bottom to the top, to fill up and subsessively close the crucks that appear in the surface. They attempt to draw the sluices, but in vain, and with no better success attempt, with long poles, to break the ice. These poles, when drawn out of the river, are incrusted with light, hard, and, with the ice. After these frosts the river always overflows its banks. Other masses of ice, in various parts, rise to the surface and are brought down by the stream. The upper part of the river is not frozen; and by the time that it has been four hours above the horizon the whole is desolved, and a mill no longer impeded in its operations. The kind of the miller designated the anchor frost. A similar phaenomenon has been observed in the Thames, and also in America, where the same designation is applied. (Ireland's picturesque views on the Avon.) A canal from Stratford to the Worcester and Birmingham Canal, connects the Avon with the great system of inland navigation in the midland counties.

2. The Lower Avon rises in the hilly district in the

Mr. Ireland, in his picturesque views on the Avon, says. 'Avon, from or Seven, is a name common to rivers whose course is west and east,'
The Kennet and Avon Canal, from Bath to Newbury in Berks, connects this river with the Thames; and other artificial navigations to open water communication between Bath, Bristol, and Newbury, the clothing district of Wilts and Somersetshire. Just below Bristol the fine rocks of St. Vincent rise abruptly close to the river. It was in contemplation some few years since to throw a suspension bridge over the stream at this point, as there would be sufficient head for the navigation between Newport Pagnell and Reading.

Below these rocks the river runs between marshes into the Bristol Channel.

3. The Little Avon is an insignificant stream, which rises in the southern part of Gloucestershire, and flows past Berkeley and into the Severn.

4. The Avon of Wiltshire and Hampshire rises in the former county. It is formed by the junction of several rivulets (rusing in the hills and downs which lie between Hungerford and Devizes), and flows in a southerly direction by Malmesbury towards Salisbury, watering a low valley, considerably below the average level of the country, which intersects Salisbury Plain. At Salisbury it receives the Willy or Willey, or Willeybourne (which comes from the neighbouring and remote village of Overbury in Surrey, or Adder-bourne, from the border of Dorsetshire), and the Bourne which rises to the east of the springs of the Avon, and pursues a course nearly parallel to it. The Bourne, it may be observed, is dry in summer and harvested over, but when the Avon becomes navigable, and entering Hampshire, runs along the western edge of the New Forest, past Fordingbridge, Ringwood, and Christchurch, until it falls into the English Channel.

Near its mouth it receives the Stour, which rising at Stourhead, Wilt., pursues its course in a south-east direction, past Sturminster Newton Castle, Blandford Forum, and Wimborne Minster, into Hampshire, and unites with the Avon. The length of these rivers may be estimated to be as follows: the Avon, from its rise to Salisbury, is about thirty-seven miles long, and its whole length is above seventy miles. The Willey is about twenty-four miles long, and the Nadder about eighteen: the Bourne is nearly as long as the Willey. The Stour is more important, and nearly approaches the Avon itself in length: perhaps its course may be stated at about sixty to sixty-five miles.

Various handsome seats adorn the banks of the Avon on its descent to Salisbury, as well as in the course of its ascent to Salisbury, as well as in the course of its ascent to its source. Below Ringwood, indeed, it passes through a less interesting sandy level to Christchurch. The Stour has a very winding course through a country adorned with a number of beautiful seats.

Large ships can get up to Christchurch, where the tide rises seven or eight feet; but a few miles higher up, locks and sluices are required to make the river navigable.

5. The name Avon is given to two rivers in the principality of Wales. One is in Glamorganshire. It rises in the inland part of the county, and after a south-west course of about fifteen miles, falls into the sea below the village of Aber Avon. The other river rises in Monmouthshire and falls into the Usk near Caerleon. It is of about the same length as the foregoing. This last-mentioned stream is distinguished as the Avon Lwyd, or the Torvdn.

7. 8. 9. Three streams in Scotland bear this name. One is a feeder of the Spey, and rises in the south-western extremity of the county of Banff, close to Cairngorm Mountain. Its source is a small lonely loch, called Loch Avon, with steep precipitous banks, rising sheer up almost to the very ridges of the adjacent mountains, and entirely keeping the sun from the surface of the loch during the winter months. Its course is first easterly for about 13 miles, and then northerly for nearly 20 more, until it joins the Spey at Inveravon. Its whole course is about 32 or 33 miles. It flows from the lake in a large rapid stream; and the water is remarkably transparent, so as to appear formidable where it is not really so. In different books of geography it is said to have a course of only about 20 miles.

The next stream rises just within the border of Ayrshire, and flows in a circuitous course till it falls into the Clyde on the left bank near Hamilton. Its length is nearly 20 miles. The banks are high and bold, and in many places covered with natural wood.

The remaining stream runs from Loch Fanny in Dunbartonshire, and flowing first to the east, and then towards the north, falls into the Forth, a little west of Burrowstone, on the island of Inchcolm. Its course is rather more than 20 miles, but it would be increased in length if measured from the head of one of its tributaries, the Logie water, which has a longer course than the parent stream previous to their junction. For about half its course, the Avon forms the boundary between the shires of Linlithgow and Stirling.

All these Scotch rivers are called sometimes Avons.

(Skrine's English Rivers; Beauties of England and Wales; Camden's Britannia; Ireland's Picturesque Views on the Upper Avon; &c.; Sir T. D. Lauder's Account of the Great Floods of Moray. The lengths are measured on Arrowsmith's Map of England, four sheets, 1813; and Ainlie's Map of Scotland, in nine sheets; except Nos. 2 and 4, and part of No. 1, which have been measured on the Ordnance Survey.)

A VOSSET (Zoology). The vernacular name for some of the genus recurvirostra (Linn.), formerly included among the palmpedes, or true swimmers, but now, with greater attention to the habits and affinities of the birds, placed by Vigors among the grallatores, or waders, in the singularly peculiar sub-family between the genera sisamia (sandpipers) and limosa (godwits), in which last the bill begins to be a little reflected.

[Note: Additional information is provided on the last page for the river Avon in Worcestershire, including its length, source, and the villages it passes through.]
The climate is rigorous, and the soil barren. Small widely-scattered patches of cultivated land produce oats and rye; but it is said that the former degenerates. The pastures are covered with fern, and boom (fougères et genêts), and prickly shrubs. It is only in the valley that trees are found; they are chestnut and oak, and melts slowly. Sometimes the wind separates the flakes into petals as fine as dust, and it then penetrates by the smallest openings into the houses.

The area of the district of Laranca or Largac, between 2400 and 2500 feet above the level of the sea, is surrounded by the mountains of the Auberac, the Cévennes, and the mountains of Caune, and overlooks the valley of the Tarn on the one hand, and that of the Hérault on the other. It is covered with huge square blocks of calcareous rock, and at the top, white and frable at bottom, which some geomorphologists have supposed to be the relics of sedimentary strata. These blocks, which have neither moss nor lichen on them, are the foundations of human habitations. This plain, where the traveller may not meet with a house, or a tree, or a brook, for several miles, furnishes pasture to vast flocks of sheep. The dryness of the atmosphere, and the aromatic plants which abound, sage, lavender, and thyme, impart a peculiar savour of flavour to the mutton fed here, and render the wool superior to that of almost any other district.

From the village of Roquefort in this neighbourhood, the Roquefort cheese derives its name. It is made of ewe's milk, and is very delicate; a little goat's milk is added in many places, but the least quantity of that of the cow would alter the quality of the cheese. The ewes are of a breed closely resembling the merinos. They yield abundant milk, and it is stated that 100,000 of them furnish the supply for making the Roquefort cheese. The cellars, ". . . the houses of the village, hangs in the mountains, and is still exported into most countries in Europe. The village has not more than 300 or 400 inhabitants; but they export yearly 15,000 to 18,000 ewts. Some cheese, sold under the name of Roquefort, is made at Millau.

Some beds of coal are worked in the district of Laranca.

The atmosphere of the department is generally pure, and the sky clear; but the temperature varies considerably in different parts. The snow remains on the mountains half the year. The winds are strong, and unceasing, blowing to unroof the houses and blow down large trees. The prevalence of the south wind gives to the branches of the trees a general direction towards the north. This wind brings rain to the south end of the department; as the west wind does to all the others.

The quantity of waste land is more than one-third of the surface. The principal wealth of the department, as it is inferred from the foregoing account of particular districts, consists in carrying on the breeding of horses, mules, oxen, sheep, goats, and swine. The number of sheep was given in the Geographie Universelle of M. Malte Brun (see last edition, Paris, 1812, et seq.) at above 600,000.
cultivated. Wine, which, for the most part, is of ordinary quality, is made only in the eastern districts. A considerable number of mulberry-trees are grown for the silk-worms. The sides of some of the mountains are covered with vast forests. Wolves sometimes attack the herds; but the cows instinctively range themselves round the stalls and repel them with their horns. Sometimes they eat them. The *Diocesanius Universalis de France* (Paris, 1504-5) speaks of iron and copper mines; but Malte Brun (*Géographie Universelle*) says that the metals of the district are still unworked, and adds that the production of the coal and alum mines might be vastly increased. Besides the mineral waters of Cranée, already noticed, there are warm baths at Silvanèse, in the mountainous district between the Sorgues and the Dourdon. Their temperature is placed under the heat.

Silks, woollens (especially serge, linsey-woolsey, and grey cloth), and paper, are manufactured. The streams, especially the Lot and the Tarn, furnish the moving power for the machinery of the factories, and after their navigation commences, they also facilitate the conveyance of goods.

The chief places are as follows:—The capital, Rodez or Rhôdez (a name derived from that of the people, the Ruteni, who inhabited the country before the Roman conquest), is on the Aveyron, a city of about 6000 inhabitants. Millau, on the Tarn, has about 6000 inhabitants in the commune, and nearly 9000 of them in the town itself.

St. Afrique, on the Sorges, has a population of 6300, of whom 4600 are in the town; Villefranche, at the junction of the Sorgues and the Aveyron, has 2100 inhabitants, of whom 7000 live in the town itself; and Espalion, on the Lot, has more than 2000 in the town, and 3500 in the commune. These are all the seats of sub-prefectures.

St. Afrique having been omitted in its proper place, we shall give a short account of it here. It was, early in the sixteenth century, in the hands of the Calvinists, and was afterwards given up to the Catholics, and a flourishing trade than since. It stood a siege against the royal army in 1528, but was afterwards obliged to submit to Louis XIII, and from that period its decay may be dated. Some cloths and fustian are made here, but the trade of the place is scarcely of any extent; and except its rank as capital of an arrondissement it has few claims to notice.*

The town is surrounded with fine walks, and is situated in the midst of orchards, meadows, and vineyards. The seat of the bishop and the reformed church are the only buildings worthy of notice.

To the towns mentioned above, we may add St. Genièse d'Olly, or St. Genièse de Rivelolt, on the right or south bank of the Aveyron, which was the seat of the abbey of the Abbé Raynal. Sevresac le Château is built on a conical hill, and is commanded by an ancient castle: it has a population of 2900. Espéaux, at the confluence of the Trypère and the Lot, where the navigation of the latter river commences, carries on a considerable timber trade, and was formerly a place of some consequence as a fortress. La Guiole, on the little river Sélve, has 2000 inhabitants, who manufacture cloth and worsted stockings. It is on the slope of a basaltic mountain above 3500 feet high. Valres, an insignificant place very near St. Afrique, was a bishopric up to the time of the French Revolution.

This department constitutes the diocese of Rodez; the bishop is a suffragan of the bishop of Puy. Rodez, on the Aveyron, is the seat of the Jurisdiction of the court royale (assize court) of Montpellier, and is in the ninth military division, the head-quarters of which are at Montpellier. It returns five deputies to the Chamber of Deputies.

It nearly coincides with the ancient district of Rouen, a sub-division of the province of Guienne. (*Encyclopédie méthodique, Géographie Physique, art. Aveyron*; MM. Malte Brun et Balbi, *Dictionnaire Universel de la France.*)

**Ben Abdallah, Ben Sina**, was a celebrated Arabian philosopher and physician, whose name has ruled in the realm of science during a longer period than that of any other writer, with the exception of Aristotle and Galen. He was, according to the biographical dictionary of Ebn Khallikan, born at Kharmatain, a village near Bokhara, in the year 870 and gave evidence of his extraordinary talents at an early age. His father, Al-Mutowe, a famous physician, made him, at the age of thirty, his partner in the practice of medicine. He taught his son the science of Hindu arithmetic (hīdīb al-ḥind) and algebra. About this time Abu Abdallah Al-Nathali, a scholar of some note among his contemporaries, came to Bokhara, and practised medicine there. He was an eloquent speaker, a master of logic, Euclid, and the Almagest. When Al-Nathali left Bokhara, Avicenna, then about sixteen years old, began to turn his attention to the study of medicine, but soon interrupted his medical pursuits to devote another year and a half to a course of philosophical study. In an autobiography memoir of Avicenna, which has been preserved by Abulfaraj, he informs us, that so great was the zeal with which he devoted himself to his studies, that during two years he never went to sleep at night; if he was unable to find the solution of an intricate difficulty, he would not cease repeating his prayers until he had found them; and if he could not overcome the difficulty, he was assured that even before he had reached his eighteenth year, he cured the Samanide Sultan of Bokhara, with a leprosy incurable a. d. 908, and the prince immediately appointed him his physician. This prince was then afflicted with a disease of the kidney. In his twenty-first year he wrote a work which Caesari styles an *Encyclopaedia*, (the Arabic title is *Kitāb al-Majmū‘, i.e. literally 'The book of the sum total.') He subsequently compiled a commentary to it, which extended to twenty-three books. When he was about thirty years old, Avicenna lost his father, whom he succeeded for a short time in the office of minister to the sultan of Bokhara; but after the downfall of the Samanide dynasty, which happened about the beginning of the eleventh century, he quitted Bokhara, and settled at a place close to the river Araz, afterwards to Nisa, Abiwerd, Täs, and other places.

He was for a time attached as physician to the court of the Dilemite sovereign, Shams-ul-Malik Kābūn ben Wasmghr. When this prince was dethroned, which happened about a.d. 1012, Avicenna retired to Jorjan, where he began to write his celebrated treatise on medicine known under the title of the Canon (*Kitāb al-Qānūn fī al-Tibb*, i.e. 'Book of the Canon in Medicine'). He subsequently lived for a time in the city of Kairouan. At that time, after the capture of the city, he was appointed vizir to Shams-eddaullah, the reigning sovereign of that town. In this capacity, however, Avicenna gave but little satisfaction, and lost his office when Shams-eddaullah died. He now took up his abode at Ispahan, where he was occupied several years in the composition of the cases that came under his observation in his medical practice, intending to avail himself of them as materials for the completion of his Canon of Medicine; but we are informed that these notes were lost before he found time to make the intended use of them. He was physician to Alā- eddaullah, then the sovereign of Isphan, and accompanied him on a journey which that prince undertook to Hamadan. Avicenna, whose health had been previously weakened, had an attack of cholera on the road, of which he died shortly after his arrival at Hamadan, being then fifty-eight years old. Ebn Khallikan fixes the time of his death in the month of Ramazan, A. H. 428 (a.d. 1036); the same year is assigned by Abulfaraj (p. 233, ed. Pecock), while Ebn Casiri ('Rihlah', vol. i. p. 299) notices a list of them, in which sixty are enumerated; Ebn Khallikan gives as the number of his works 72, great and short treatises at nearly a hundred, and mentions particularly the *Shefi al-Ibn*, the *Nejati*, the *Ishārāt*, and *Zāyi*.
and the Kândun: the titles of many others may be seen in Casiri (vol. i. p. 270). Among them, the Kândun acquired the greatest celebrity, and became, even in Europe, for many centuries, the standard authority in medical science, less on account of original merit, in which, according to Sprengel, it is very deficient, than on account of its judicious arrangement, and the comprehensive view which it afforded of the doctrines of the ancient Greek physicians, at a time when the knowledge of the Greek language was very scanty. It was translated, revised and accompanied with a commentary, by Jacobus de Partibus, was edited for the first time in 1498, at Lyons, in four large volumes in folio, by two Germans, Johannes Trechsel and Johannes Klein; several other editions have since appeared, the latest at Venice, in 1585, fol. An edition of the Arabic text of the Canon was published at Rome, 1593, fol.

(See Ebn Khalil, art. al-Hossein ben Sina; Abulfaraj, Historia Dynastiarum, ed. Pocock, p. 229-233; Bar Hebræus, Chronicon Dynastiarum, t. i. p. 231-233; Casiri, Bibliotheca Arabico-Hispana, t. i. p. 268, &c.; Hottinger, Bibliotheca Rius Quadruptartis, Tigor, 1654, 4to. p. 236-261; Sprengel, Histoire de la Médecine, trad. par Jourdan, t. ii. p. 363, &c. We have not had an opportunity of consulting Fariella’s translation of an account of Avicenna’s life by Ebn Jolijorjani. Venice, 1595, which is cited by Sprengel.)

AVICULA (zoology), a genus of marine conchifers, or bivalves with unequal valves, in which Sowerby, with much show of reason, includes the genus Melagrina, also formed by Lamarck. The shell in both is fusiform externally; and internally, of a brilliant pearly lustre. The left-hand valve is contracted and notched posteriorly; and so is the right, but very slightly. Through this sinus passes the byssus, by which they are moored to rocks and other marine bodies. The ligamental area is marginal and broadest in the centre; and there is generally a small tooth in each valve near the umbones. This is most conspicuous, generally speaking, in Aricula (Lam.), but is not always found, while it is often present in Lamarck’s Melagrina, though it is sometimes absent. The muscular impression is nearly central, somewhat obovate and large.

Aricula, then, as characterized by Sowerby, will comprise two sections: the first including those species which have their base, or hinge-line, considerably prolonged; the second embracing those which are without that prolongation—in other words, the Melagrinae. Both sections are the inhabitants of warm climates. Aricula macroptera may be taken as an example of the first section.

Aricula margaritifera (Melagrina margaritifera, Lam., Mytilus margaritifera, Linn.) The shell is import in great quantities, for the manufacture of the nacre, or mother-of-pearl, into buttons, knife-handles, paper-knives, &c.; but its great commercial value, other editions have since appeared, the latest at Venice, in 1585, fol. An edition of the Arabic text of the Canon was published at Rome, 1593, fol.

Persian Gulf, are carried on by means of divers. Captain Percival has given so lively an account of the pearl-fishery at Ceylon, that the whole busy scene is brought before the reader. [See PEARL.

AVIENUS, or AVIANUS, sometimes written ANI- NUS. As it is not within the plan of this work to allot much space to the discussion of minutes and obscure points of literary history, we shall not inquire which is the true way of writing the above name, or whether the different forms belong to one or two persons. Under one or other of them we have a collection of Asopian fables in Latin elegiac verse; translations of the Phenomena and Prognostica of Aratus into hexameters; a translation of the Perijesus of Dionysius, entitled ‘Descrip. Orbis Terrae’; and a poem in iambic verse, entitled ‘Ora Maritima,’ of which only the first book remains, containing a description of the Mediterraneum, from the Straits of Gibraltar to Marseilles. The fables commonly bear the name of Flavius Avianus; the other works that of Rufus Festus Avienus. The reader will find the identity of these two persons largely discussed in the dissertation annexed to the edition of Avianus’s Fables, by Henry Cannegeiter, Lrug. Bat. 1731; but it requires some patience to wade through the mass of heterogeneous matter there collected. The translations from Aratus will be found in many of the editions of that author, and especially in that of Bublé, Lips. 1844. The ‘Descripcio’ was edited by Friesemann, Amst. 1786, and, together with the Ora Maritima, is contained in the Oxford edition of the Minor Greek Geographers. The author of these works appears to have lived about the year 400: Avianus the fabulist is placed, by those who deny his identity with Avienus, about 240 years earlier.

AVIENUS, GENNADIUS, was a leading senator of his day (see his character in the Letters of Sidonius Apollinaris, i. 9) and colleague of Valentinian in his 7th consulate, A.D. 456. Two years after he was sent on the embassy which induced Attila to pause in his march against Rome. (See ATTILA; Sirmond, Notes to Sidonius, Par. 1652; Gibbon, ch. xxxv.)

AVIGNON, a celebrated city of France, in the department of Vaucluse, of which it is the capital. It is situated on the left bank of the Rhône, just above where the river Durance flows into it; and is 432 miles S.S.E. of Paris, 43° 56’ N. lat., 4° 46’ E. long.

Avignon (the Latin name was Aréno) is a very ancient city, and some writers have ascribed its origin to the people of the Greek colony of Massalia, now Marseilles.

* The figure represents a young individual. The shell grows to a large size, and then the delicate foliations disappear.
According to another opinion, it was the capital of a Gallic tribe, the Cavesres, in whose territory it was doubtless situated, and from whom it was called Avenio Cavarum. It came into the hands of the Romans at an early period of their dominion in Gaul, and a Roman colony appears to have been established here. Upon the downfall of the Roman empire in the west of Europe it was possessed by the Burgundians, and afforded to the king of that people a secure asylum from the power of Clovis, king of the Franks, who besieged it in vain. It subsequently became subject, perhaps, to the dominion of the Ostrogoths, Franks, and Saracens. The Saracens took it twice, but could not retain it. Afterwards it came into the hands of the kings of Arles and Burgundy. It was an object of contention between the Counts of Provence and Toulouse; the latter being the successor of the ancient county of Toulouse, was entitled to divide its dependencies between them. Part of the dependencies was also held by the Counts of Foresqueur; but the last of that family bequeathed his portion to the citizens of Avignon, who were enabled by this accession to their resources, and by the dissections of the Counts of Provence and Toulouse, to acquire a kind of independence. But when the domains of the two last-mentioned nobles came by marriage into the hands of Charles and Alphonsus, but was called Le Repentigny, Louis XIII., was obliged to submit. It was at first divided between the two princes, but afterwards was wholly included in the county of Provence. The period of independence terminated in 1251, after subsisting less than half a century. A second town was erected, probably for the town to the horrors of war. The crusade against Raymond of Toulouse, chief of the Albigenses, was directed also against Avignon, which supported him. Louis VIII., King of France, besieged and took the city in 1232, beat down the walls and all the houses, cut off the heads of the last part of the citizens to death on pretext of sedition, and would have quite extinguished the liberty of Avignon if death had not removed him.

Nearly half a century after this, Pope Clement V., himself a native of France, removed his court and residence from Rome to Avignon, which continued to be the papal residence, until Gregory XI., in 1376, left it to return to Rome. In the grand schism which took place on the election of the latter pope, the city fell into the hands of the Avignonese, who became the residence of the anti-popes Clement VII., and Benedict XIII. The latter was driven out in 1409 by the French, who were tired of the schism. Pope Clement VI. in the year 1348, during the period of the papal residence at Avignon, caused the city of Angouleme, and its bishopric of the diocese of Angouleme and Queen of Sicily; and the sovereignty was retained by his successors until it was seized by the French, in 1791, since which period Avignon has been a part of France. The popes governed the city and its dependent country, which, for a long time, all but the last, was always non-resident, by a vicar, who had jurisdiction over the county of Avignon, but also over the county Venaissin, which, though frequently confounded with it, was really distinct, and derived its name from the ancient town of Venaissin, in which was situated the see of a bishopric and the capital of the county. (Pignolau la Force, Nouvelle Description de la France, 1722.) The inhabitants of Avignon, however, while they continued subject to the pope, were naturally French, and were eligible to offices or ecclesiastical appointments in that country. A garrison of about 180 men (viz. 50 light horse, who served as the guard of the vicar, 100 infantry, and 20 to 24 Swiss guards, and officers with good pay) was maintained by the papacy.

There were in the city several courts of justice. That of the Vigour was the most ancient. It took cognizance of cases, whether civil or criminal, in which the laity were concerned. There were two judges; but an appeal lay from their court to the Inquisition. This court existed of the Adjutor-General, as president, and four or five other judges. Another court, that of the Adjutor-General, had a primary jurisdiction in particular cases; and was also a court of appeal from the sentence of individual judges or magistrates of Avignon and the county Venaissin. From this court again an appeal might be made nominally to the Vice-Legate, but in reality to the tribunal of the Rote, to which the Vice-Legate transferred the affair; in such cases the Auditor-General took no part in the decision. In criminal cases an appeal lay in the last resort to a tribunal composed of the Auditor-General and some other judges, with the Vicar-Legate himself for president. It seems likely that in this case the papal legation was in form made to the Vice-Legate, and that he committed the case to the tribunal just mentioned. He usually gave audience twice a week to receive appeals. According to an old custom, the right of appeal lay from these several courts to Rome. The Inquisition was also established at Avignon.

The Vigour, who has been already mentioned, though nominally annualy by the Pope, appears to have been the chief of the clergy and the chief magistrate of the city during the period of its independence. He was always a gentleman by station. The police was under the direction of three officers, called Consuls, who, with their assessors, were the police magistrates.

Since the cession of Avignon to France, these various courts have of course given way to the ordinary tribunals of that kingdom.

The city at the most ancient period was built on what was called Le Repentigny, and at first consisted only of a fortress, and gradually extended towards the plain, forming nearly a square. It was surrounded by a strong wall, by whom built is uncertain; but a change in the course of the Rhône having left part of the city open, a new wall was added by the Benefice, a shepherd boy of eighteen, but he did not live to see the completion of the work. It had nineteen arches; and was regarded as a wonderful structure, on account of the breadth, depth, and rapidity of the river. In the year 1669, in the reign of Louis XIV., it was almost entirely taken out of the city, and only four arches were left entire; the part destroyed was replaced by a wooden structure, which appears to be the one now standing.

While under the papal dominion, Avignon abounded in churches and religious establishments. The continual noise of their bells led Rabbiels to give to the city the name of La Ville Sonnante. The cathedral is by no means of uniform architecture. Its portal is supposed to have been removed from an ancient skeleton of the natural site, said to have been seen to one of the sixteenth century. Among the tombs which it contains are those of the Popes Benedict XI. and John XXII. There were appearing in the later period of the papal dominion, collegiate churches served by many ecclesiastics; and a great number of religious houses for persons of both sexes, namely, twenty for men, and fifteen for women; besides hospitals and charitable institutions. The number of ecclesiastics was regulated by Expilly, in 1762, at 900. The church of the Cordeliers was celebrated for the tomb of Laura de Sade. The same tomb contained also the body of her husband Hugues de Sade. Her best monument is the stone church now in ruins, and the tomb has disappeared, but it is said to be still entire under the ground. The site of the church and its enclosure is converted into a fruit-garden, and a small cypress tree marks the spot where the tomb is left. The chapel of the Braving is also in ruins, and the tomb has disappeared.

The site of the church and its enclosure is converted into a fruit-garden, and a small cypress tree marks the spot where the tomb is left. The chapel of the Braving is also in ruins, and the tomb has disappeared. In the church of the Celestines, there was a valuable library, a patrimony.
A V I

was one of the principal cities of France in the fourteenth and fifteenth centuries. Today, however, it is a modest city with little to offer the tourist beyond its historic past.

Avignon was an important city during the Middle Ages, serving as the seat of the papacy for over 180 years. The city is known for its impressive papal palace, the Palais des Papes, which is now a UNESCO World Heritage Site.

The city also has a rich artistic heritage, with many notable works of art on display in the city's museums and galleries. Among the most famous is the famous painting "The Kiss" by Paul Cézanne, which is housed in the Musée Calvet.

Avignon is also known for its annual summer festival, the Avignon Festival, which is one of the largest theatrical festivals in the world. The festival attracts thousands of visitors each year, showcasing a diverse range of performances from around the globe.

In addition to the cultural offerings, Avignon has a lively and bustling atmosphere, with many cafes, restaurants, and shops to explore. The city is also a great base for exploring the surrounding countryside, with its many vineyards and medieval villages.

Overall, Avignon is a wonderful destination for anyone interested in history, art, and theatre, offering a unique blend of past and present.
AVOCA. A French word, derived from the Latin advocatus, and corresponding to the English 'counselor at law.'

AVOCATA. In French law language the avocat is the title of the advocates or counselors at law in our barristers, and avocats consultants, called also 

AVOCAT: a kind of chamber counsel, who do not plead in court, but give their opinion on intricate points of law. Un- 

AVOCADA, called by the Italians Valona, or Va Louna, a town in Albania, on the gulf of Avlona, which is formed by the headland known to the Greeks and Romans as the Acro-Ceramian Promontory, and called at the present day C. Linguetta, or Gela, now a town of the English, is the termination of the Acro-Ceramian Mountains of the antiquity, now the Mountains of Khimara. The gulf of 

AVONNA, called by the Italians Valona, or Valoune, a town in Albania, on the gulf of Avlona, which is formed by the headland known to the Greeks and Romans as the Acro-Ceramian Promontory, and called at the present day C. Linguetta, or Gela, now a town of the English, is the termination of the Acro-Ceramian Mountains of the antiquity, now the Mountains of Khimara. The gulf of Avlona is a deep recess, in proportion to its extent: the town of Avlona stands on a precipitous cliff, and the only way of entrance is by a boat, which for some time before the inferior courts assumed the name of 'avocats du roi.' (Repertorio Universale di Jusprudence, and Dictionnaire de l'Academie.) 'Avocat fiscal' 

was a law-officer in a ducal or other seignorial court of justice, answering to the avocats du roi in a royal court.

At present there are in France 'avocats au conseil ducal,' or former; 'avocats general,' of whom there are five at the Court of Cassation or Supreme Court, four at the Court of Paris, and one at the Court of Rouen. In the departments of France, instead of the old nature of the local counsels, they are called 'avocats a la Cour de Cassation,' who are in number, and who conduct exclusively all causes before that court; and 'avocats a la Cour Royale,' or the lead before the various courts, must be bachelors at law, and must have taken the oath before the Court Royale. There is a roll of the advocates practising in each court. Candidates are admitted by the Council of Discipline after a probationary term. The members of the council are elected by the advocates inscribed on the roll. The 'avocats' (attorneys) also plead when the number of advocates is not sufficient for the dispatch of business. (Almanach Royal of National.) The word 'avoué,' in canon law, means the receiver of a donation or the custodian of a church, monastery, or other ecclesiastical community and jurisdiction. In the middle ages he was generally some feudal lord who took care of the temporal interests of the community, and defended them in court or field; he dis- 

The French word used in English is 'averdupeis.'

AUGUSTUS AVODUROIUS, or AVERDUROIUS, the same given to the common system of weights in England, now applied to all goods except the precious metals and medicines.

The pound of gold is a pound avoirdupois, and contains 1600 grains; a pound of gold is a pound, and contains 5760 grains. The word has been used in the sense of this word, and

which varies in different places. Dr. Holland descended into one shaft which was only 40 feet deep, 30 feet being cut through the bed of pitch. At this depth, and while having yet a floor of the mineral, the workmen began to tunnel in a horizontal direction; but this mine was of irregular origin, and has only advanced only a few feet from the shaft. The miners reported that in the parts the bed of pitch (or bed, for it is not ascertained whether it is one continuous bed or not) was 70 or 80 feet thick. The colour of this pitch approaches to black; the fracture is uneven, and it is also weak and heavy, and has a specific gravity of 1' 4' and 1' 5'. It becomes viscid, or nearly fluid, when heated, and burns with a tolerably bright flame. The property of the mines is vested in the Grand Seignior, and the annual rent is 10,906 piastres per annum. The carriage of the pitch to Avlonna was formerly done by sea, and six or seven cargoes were (about 1819) annually exported, chiefly to Malta, and to different Italian ports. Taking the piastres of Sicilum of 1801 as the standard here, 10,000 piastres are equal to nearly 600l.

AVOCAT. A French word, derived from the Latin advocatus, and corresponding to the English 'counselor at law.'

AVOCATA. In French law language the avocats are the title of the advocates or counselors at law in our barristers, and avocats consultants, called also 'jurisconsultus,' a kind of chamber counsel, who do not plead in court, but give their opinion on intricate points of law. Un-
that the obsolete French verb sveror, and the middle Latin word avertere, signify to every (see Ducange, at the word averti), it is more likely that we are to look here for the true etymology. It has also been supposed that the word is derived from averet via ponderis, averet, and averet, being (on the same authority) words used for goods in general.

The ounce averdupois is generally considered as the Roman unia. It contains 4374 grains (N.B. there is but one grain in use amongst us), while the Roman unia, according to Archibald, contains 4374 grains; according to Coddington, 50 on the old coin of Venice, 1768. Cited by Dr. Younq) it is 4374 grains; according to Plautus (called by Dr. Kelly) it is 4374 grains. Whether the preceding be correct or not, we cannot suppose that in any case the supposition be verified, nor do our ancestors do not appear to have been very attentive to small weights: for instance, in the list of church gold and silver plate delivered to Henry VIII. (preserved in the Bodleian library), nothing less than an ounce is mentioned, except only once, in which a quarter of an ounce is given.

The antient pound (now used in Scotland) was heavier than the avoirdupois, and weighed 7680 grains: the earliest regulations on the subject fix the Troy weight; the avoirdupois is mentioned in some orders of Henry VIII. A.D. 1532, and a pound of this sort was placed in the Exchequer as a standard by Elizabeth, A.D. 1588. The committee of 1738 found this pound to be 11 grains less than it should be as deduced from the standard Troy pound kept at the Mint, which they attributed to frequent use; but considering the avoirdupois weight altogether as 'of doubtful authority,' and Troy weight as the one 'best known to our law,' they recommended the adoption of the latter as a standard, which is done, except in money ever since, though goods in general are weighed by Troy weights.

The committee of 1816 made no alteration in the weights, but ascertained the value of the grain, as afterwards described in the Act of Parliament 3 Geo. IV. c. 74: 'A cubic inch of distilled water, weighed in air by brass weights, at the temperature of sixty-two degrees of Fahrenheit's thermometer, the barometer being at thirty inches, is equal to two hundred and fifty-two grains, and four hundred and fifty-eight thousandth parts of a grain. The pound avoirdupois contains 7680 such grains. From this it may be deduced that a cubic foot of water, under the above conditions, weighs 99714 ounces, which, being very nearly 1000 ounces, gives an expedient rule for deducing the real weight of a cubic foot of any substance from its specific gravity. For example, if the specific gravity of gold be 19.36, the weight of a cubic foot of gold is 19360 ounces avoirdupois. If more accuracy be required, subtract three for every thousand from the result.

The avoirdupois pound is divided as follows:

<table>
<thead>
<tr>
<th>Grains</th>
<th>Drams</th>
</tr>
</thead>
<tbody>
<tr>
<td>2711</td>
<td>1</td>
</tr>
<tr>
<td>4374</td>
<td>16</td>
</tr>
<tr>
<td>5648</td>
<td>1</td>
</tr>
</tbody>
</table>

28 pounds make one quarter.

112 pounds, or 4 quarters, one hundred weight.

20 hundred weight one ton.

The ounce is more commonly divided into quarters than into drams.

The usual contractions are as follows:

<table>
<thead>
<tr>
<th>grain</th>
<th>dr.</th>
<th>o.</th>
<th>pound</th>
</tr>
</thead>
<tbody>
<tr>
<td>576</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

There is a large number of words in weights, roughly, from all but two figures take all but three. Thus 17,834 pounds contain 159 hundred weights, done as follows:

Subtract 139

When the number of hundred-weights exceeds 100, the error can never be greater than two.

Avoirdupois is 4811 of the French kilogramme, and 9071 of the common French pound. That is, 904 pounds are 481 kilogrammes, and 452 pounds avoirdupois are 419 French pounds. [See Wrights and Measurements]

If decimals be employed: from one hundredth of the pounds is subtracted a hundredth of the quarter, a hundredth of the ounce, a hundredth of the drachm, or a hundredth of the grain.
ern part of Wiltshire. Several springs, after uniting their waters, flow first to the N.W. past Wootton Bassett (but not close to the town), then turn to the W., and afterwards to the S.W., past Chippenham and Melksham to Bradford, nearly forty miles from the source, following the windings of the river, which is not navigable. The river Avon receives a stream from the neighbourhood of Malmesbury, which is marked in some maps as the Avon, as though it were the main stream; and another small stream of the same name, which joins the river above Chippenham. From Bradford the river has a circuitous course of more than ten miles to Bath, receiving the little stream of the Were from Trowbridge, and the Frome from Frome, both on the left bank. Between Bradford and Bath it is sometimes navigable, and from Bath to Bristol, which becomes navigable, flows about twenty-seven or twenty-eight miles to the N.W. through Bristol into the Bristol Channel. Its whole course is thus between seventy and eighty miles. Large vessels can get up to Bristol, which is nine or ten miles up the river.

This river is more remarkable,' says Skrine (General Account of all the Rivers of Note in Great Britain), 'for the romantic valleys it forms, and the rich country it winds through. It is navigable for its entire course, being generally buried between deep banks. Its colour also is liable to be affected by storms—those from Wiltshire tingling it with white from a chalky soil, and those from Somersetshire with red from the ochre prevailing in that country; but it naturally presents a dark tawny appearance, except where shallows intervene, and is occasionally rapid.

The Kennet and Avon Canal, from Bath to Newbury in Berks, connects this river with the Thames; and other smaller navigations connect the streams of Wilts and Berks, between Bath and Bristol, and the clothing district of Wiltshire and Somersetshire. Just below Bristol the fine rocks of St. Vincent rise abruptly close to the river. It was in contemplation some few years since to throw a suspension bridge over the stream in this point, as there would be sufficient height for the largest vessels to pass beneath it. Below these rocks the river runs between marshes into the Bristol Channel.

3. The Little Avon is an insignificant stream, which rises in the northern part of Gloucestershire, and flows past Berkeley castle into the Severn.

4. The Avon of Wiltshire and Hampshire rises in the former county. It is formed by the junction of several rivulets (rising in the hills and downs which lie between Ilmington and Devizes) and flows in a southerly direction by Amesbury towards Salisbury, watering a low valley, considerably below the average level of the county, which intersects Salisbury Plain. At Salisbury it receives the Wilt or Wilton, which comes from the neighbourhood of Warminster, and is augmented by the Nadder, or Adderbourne*, from the border of Dorsetshire, and the Bourne which rises to the south of the springs of the Avon, and pursues a course nearly parallel to it. This river, and all others tributary, are navigable at low water. By these affluents the Avon becomes navigable, and entering Hampshire, runs along the western edge of the New Forest, past Fordingbridge, Ringwood, and Christchurch, until it falls into the English Channel, just below the last-mentioned town. Near its outfall it receives the Stour, which rises at Stourhead, Wilts, pursues its course in a south-east direction, past Sturminster-Newton, and joins the Avon. The length of these rivers may be estimated as follows:

- The Avon, from its rise to Salisbury, is about thirty-seven miles long, and its whole length is above seventy miles. The Wilsey is about twenty-four miles long, and the Nadder about eighteen miles long, as the Bourne is the longest of them. The Stour is more important, and nearly approaches the Avon itself in length: perhaps its course may be stated at about sixty to sixty-five miles.

5. Various handsome seats adorn the banks of the Avon on its descent to Salisbury, as well as in the lower part of its course through the New Forest. Below Ringwood, indeed, it passes through a less interesting sandy level to Christchurch. The Stour has a very winding course through a country adorned with a number of beautiful seats.

Large ships can get up to Christchurch, where the tide rises seven or eight feet; but a few miles higher up, locks and sluices are required to make the river navigable.

5. The name Avon is given to two rivers in the principality of Wales. One is in Glamorganshire. It rises in the inland part of the county, and after a south-west course of about fifteen miles, falls into the sea below the village of Aber Avon. The other river rises in Monmouthshire and falls into the Usk near Caerleon. It is of about the same length as the foregoing. This last-mentioned stream is distinguished as the Avon Lwyd, or the Torvdyn.

7. 8, 9. Three streams in Scotland bear this name. One is a feeder of the Spey, and rises in the south-western extremity of the county of Banff, close to Caingorm Mountain. Its source is a small lonely loch, called Loch Avon, with steep precipitous banks, rising sheer up almost to the very ridges of the adjacent mountains, and entirely keeping the sun from the surface of the loch during the winter months. Its course is first easterly for about 13 miles, and then northerly for nearly 20 more, until it joins the Spey at Inveravon. Its whole course is about 32 or 33 miles. It flows from the lake in a large rapid stream; and the water is remarkably transparent, so as to appear fordable where it is not really so. In different books of geography it is said to have a course of only about 20 miles.

The next stream rises just within the border of Ayrshire, and flows in a circuitous course till it falls into the Clyde on the left bank near Hamilton. Its length is nearly 29 miles. The banks are high and bold, and in many places covered with natural wood.

The remaining stream runs from Loch Fanny side in Dumbartonshire; and flows first to the east, and then towards the north, falls into the Frith of Forth, a little west of Burrowstones. Its course is rather more than 20 miles; but it would be increased in length if measured from the head of one of its tributaries, the Logie water, which has a longer course than the parent stream previous to their junction. For about half its course, the Avon forms the boundary between the shires of Linlithgow and Stirling.

All these Scotch rivers are called sometimes Avon. (Skrine's English Rivers; Beauties of England and Wales; Camden's Britannia; Ireland's Picturesque Vues on the Upper Avon, &c.; Sir T. D. Lauder's Account of the Great Floods of Moray. The lengths are measured on Arrowsmith's Map of England, four sheets, 1813; and Ainslie's Map of Scotland, in nine sheets; except Nos. 2 and 4, and part of No. 1, which have been measured on the Ordnance Survey.)

AVOSET (Zoology). The vernacular name for one of the genus recurvirostra (Linn.), formerly included among the palnipes, or true swimmers, but now, with greater attention to the habits and affinities of the birds, placed by Vigors among the grallatores, or waders, in the family alopacidae, between the genera tringa (sandpiper) and limosa (godwit), in which last the bill begins to be a little reflected.
The genus recuredivora includes four species—at least
others have yet only recorded so many. The muddy
southern rivers and the banks of estuaries are their
favorite haunts, where they feed on aquatic animals,
as the smaller crustaceans, and mollusks, and the spawn of
fishes. They are deep swimmers, but do not seem to have
be the favorite haunts of the species in European, and
be known for the singularity of the shape of the
back. This animal has the neck long, and the prehensile
fingers provided with nails, by which it can hold and
be distinguished from all other kinds we have hitherto seen or heard of. This species,
recuredivora (Linn.), is widely diffused through
the temperate climates of Europe, Asia, and Africa, the
shores of the Mediterranean, and the islands of
Taiwana, are also stated to be plentifully supplied with those birds, and it is said to
be met with in Egypt and other parts of Africa. In England,
there are those found on the eastern coast below the Humber,
and in the Wash. In the north, and in Scotland, they are rarely seen.

Notwithstanding Ray’s remark, this species cannot lay
claim to such an exclusive singularity in the shape of the
body. To say nothing of the other species of recuredivora,
the red crested, for it is not yet known where, and as there was but one specimen known, there were not wanting
those who looked upon trochilus recuredivora (Swainson)
with the eyes of doubt, and the curvature was considered to
be accidental, or the effect of the position in which the bird
had been placed on the table. In the present instance, the
individuals have, however, since been seen, and Lesson has even
described a second species under the title of trochilus avoca-

That this, therefore, is a genuine form of the kind among the humming birds, there can be no question; but the
structure and mode of vision in trochilus avoca differ widely
from that of the new species.

Pernott well describes the avoca’s bill as ‘very thin,
flexible, and of a substance like whalebone.’ Buffon makes it
the chief object of one of his lamentations over the inexorability
of Nature and her niggard disposition in providing for some of
the less favoured of the animal creation. But, in truth, no
organ could have been devised more admirably adapted for the
function which it has to perform than the bill of the avoca.
A single perusal will show what great value even in
the eye of man it may have. With this view in mind, the
utterance of Buffon becomes a truism.

The avoca frequently visits the west, and its long legs are well formed
for that purpose; for it is the humming bird, and as
present but a thin edge, so as to offer barely any resistance
to the medium through which they have to make their
progress. Though the feet are often pestered with the
wet clay and moss, the position upon the ground is so
favored by bowlers, and figured by Colonel Hawker: this is the
feet of the avoca execute in perfection. Montagu says,
‘We remember one of this species being wounded in the
wrist, which had the tendons so torn, that when it was
taken up alive without ever attempting to swim; so that
the palmated feet seem only intended to support it on
the mud.

The nests of the avoces, which are very inartificial, are
generally formed in the spring, in marine marshes, where
the water is salt. They are built in the fens of
Lincolnshire and Norfolk. The eggs are greenish, spotted
with brown or black. When disturbed, soon after the young
are fledged, the round and round, repeating its pecu-
nlar cry ‘twin twit’—‘twint twit’, and then tittering
lamentously, like the lapwing, to decoy the intruder away.
Pernott gives the following dimensions of an avoca which he shot:
‘Length to the end of the tail eighteen inches, to
the breast twenty-two, the breadth thirty.
The weight was thirteen carates.

The plumage is black and white. The bill is black, and
the legs and toes are of a pale blue, or bluish grey.

AvoYer is a term derived from the Latin ad-
scenario, and was used for the corruption of adven-
tus, and was applied in general to
be champion or guardian of the church. In South
Europe and Switzerland, however, a country so
intensely religious, the term was used.

AvoYer was thus used, and the name of
AvoYer is not found in any edict or
authentic by the title which was most

AvoYer was thus used, and the name of
AvoYer is not found in any edict or
authentic by the title which was most
general in the country, via., the title implying ecclesi- 
astical authority. Thus we find in the beginning of the
thirteenth century, Berthold, Duke of Züringen, styled
the emperor’s advocate in these regions, and Rotholph after-
wards was advocate of Swis. This term, half Germa-
nian, half Gallicized (for the Franks thus governed the
plains of Western Switzerland), became in common parlance
AvoYer, and was assumed by the magistrates of such towns
as had attained the rank of Imperial. This meant that
they belonged nominally to the emperor, whose privi-
leges were considered to be reflected in the
feudal authority. The magistrates of Swiss cities assumed
the title of AvoYer, but the title sunk every where into
common, except at Bern, in which town it lasted till the
revolution of 1798.

AVRANCHES, a city in the department of Manche, in
France, on the south bank of the little river Sée or Sée. The
distance from Paris through Caen is 196 miles
40° 41’ N. lat., and 1° 25’ E. long.

AvoYer is delightfully situated on the side of a hill,
with the ruins of the cathedral crowning the summit. The
river winds at the bottom of the hill, and falls into the
sea two or three miles below the town. The tide flows up to
the bridge over the Sée at the foot of the hill on which the
city is built; and brings up with it a quantity of sand,
which the inhabitants of the surrounding districts use for
manure. The valley of the river is covered with fine
woods and with woods which reach quite down to the shore.

Before the Revolution, Avranches had, besides its cath-
dral, three churches. The Church of Notre-Dame, ruins of which
are now incorporated in the cathedral, were the
residences of the Benedictine convent yet remains, a
seminary for priests, a college, and an hospital.
The cathedral, built in the eleventh century, was pulled
up in the revolution, on the orders of the republic,
and remained so until the Restoration, when the
Republic, determined to cover the roof to convert it into a
barn; and the weather has completed the work of destruction. Mrs. Sisbland, who visited
it in 1818, says, that nothing remained but a few broken
pillars of the interior, and the outer
walls, with a cup engraven upon it, marks the spot where King
Henry II. did penance, in 1172, before two of the Pope’s
legates, for the murder of Becket. According to the last
edition of Malte Brun’s Géographie Universelle (Paris, 1872), a
tower of the cathedral remains, and is the only relic.

From a raised platform or terrace, in front of the
cathedral, there is a very extensive prospect over sea
as well as land.

Small streams can get up the river as far as the bridge
Kemp, Swale, and cotonis, are among the articles of
trade, but the city does not appear to possess any manu-
facture worthy of particular notice. There are a good high-
school (college), a library of 25,000 volumes and 264 manus-
cripts, and 140,000 books. The number of
inhabitants is about 7000. Many English families appear
to have settled here after the peace of 1814.

Avranches was known during the Roman
occupation as Gaul under the name of Inerga, and afterwards by ti of
Gelvania, under the imperial
rule, when the town was taken up alive without ever attempting to swim; so that
the palmated feet seem only intended to support it on
the mud.

The nests of the avoces, which are very inartificial, are
generally formed in the spring, in marine marshes, where
the water is salt. They are built in the fens of
Lincolnshire and Norfolk. The eggs are greenish, spotted
with brown or black. When disturbed, soon after the young
are fledged, the round and round, repeating its pecu-
nlar cry ‘twit twit’—‘twint twit’, and then tittering
lamentously, like the lapwing, to decoy the intruder away.
Pernott gives the following dimensions of an avoca which he shot:
‘Length to the end of the tail eighteen inches, to
the breast twenty-two, the breadth thirty.
The weight was thirteen carates.

The plumage is black and white. The bill is black, and
the legs and toes are of a pale blue, or bluish grey.

AvoYer is a term derived from the Latin ad-
scenario, and was used for the corruption of adven-
tus, and was applied in general to
be champion or guardian of the church. In South
Europe and Switzerland, however, a country so
intensely religious, the term was used.

AvoYer was thus used, and the name of
AvoYer is not found in any edict or
authentic by the title which was most
surface of the arëmediesz is given at 478 square miles, or 304,600 acres; and the number of inhabitants in 1832 was 3,812.

The district of Arranbee is one of the subdivisions of Normandy, and included the basin of the little rivers Céune and Sée. The Céune divided it from Brettegne or Bretagne. The Sée and the Céune are navigable as far as the tide. The Céune is not above three or four miles, if so much. The climate of this district is mild, but somewhat humid. Its mildness is attributed by the circumstance that peach trees are grown as standards; while our chestnut trees are generally grown only against a wall. Flax, hemp, corn, and fruit, are the chief productions. Cider is made in considerate quantity, and is in good repute; but no wine is made. A good deal of salt is manufactured on the coast.

(Mrs. Richardson's Letters written during a Tour in Normandy, &c.; Malte Brun; Expilly, Dictionnaire Géographique des Gaules et de la France, &c.)

AWARD. [See Advertisement.]

AWATSAK BAY is a capacious basin on the eastern coast of Kamishatak, lying in the sight between Cape Varase and Cheeponooa Ness, and the only good harbour in the whole peninsula. The entrance, which is by W. tree, is four miles in length, and one and a half in breadth in the bay; that is, the landward side is the succession of bluff points, with alternate sandy bays, produces a very pleasing effect. On the S.E. point of the entrance is a small fort and lighthouse; the latter is only used when the annual visit of vessels from Europe is expected within the season. The provisions and secretaries of the same are at a base of thirty miles in circumference, within which are the three harbours of Rakoweena, Petropaukovski, and Tarenski.

The bay is bounded by high and well-wooded land on all sides, except to the N.W., where the river Awaataik and Paratangass are well wooded, and the sea is off. The general depth of water is from twelve to fourteen fathoms, the bottom level, and of soft mud.

The bay abounds in fish of the finest quality, which are caught with the aid of the sea. An account of the fishery has been made, and the description of their summer is employed in catching and curing a supply for the winter. Salmon, trout, herring, flounders, and smelt are the most plentiful; the salmon are particularly large and fine; they are cured by drying, without salt, that article being scarce and dear.

In June the snow still lies even on the low land, but the change of seasons during the early part of July is very rapid: summer advances without the intermission of spring, and the transition to winter about the beginning of October is similar. The land is generally covered with snow during the winter, and the thermometer falls sometimes as low as −20° of Fahrenheit; the range during the first fourteen days of July was from 44° to 71°, mean temp. 55°.

A boat of sixty miles to each hour, for the very high mountains, and the height of which is nearly 12,000 feet, is fully safe; the sea; the central one is a volcano (of which there are several on the peninsula); these mountains may be seen at the distance of 150 miles. The country is generally filled with mountains, whose sterile sides present striae of grey limestone; agate, jasper, serpentine, asbestos, amethystine quartz, and other crystallised rocks, are found, with many fossils, to which the volcanic action has added the various isuses. The soil of the valleys is a dark rich mould, but as the sea supplies the inhabitants with their chief sustenance, they have no necessity to cultivate the land; a small quantity of rice, with a few potatoes and cabbages, is all that is produced by their labour.

Within the entrance is the harbour of Rakoweena, about four leagues, and one and a half wide at the entrance, narrowing towards the head. It has depth of water for the largest vessels, but a shoal lies across the mouth, leaving only a narrow channel on each side of it, so that vessels can only enter on a very calm day. Two miles to the northward of this is the town and harbour of St. Peter and St. Paul, or Petropaukovski (pronounced shortly Petropauksi), now the capital of the province, and residence of the government and the commercial agency. The town is situated about thirty miles to the westward. There are two small forts for the protection of the harbour, a good hospital, and a school. The town, which formerly consisted of a few huts on the sandy spit across the harbour, is now situated at the head of this small little landlocked bay, which is capable of containing six or eight ships of the line in the most perfect security. The town, from being built without any regard to regularity, has now become a pleasant and agreeable place, and all constructed of logs; on the upper side of each log a gutter is cut to receive the next, and a notch at each end for the transverse log, the ends being allowed to project some inches, and the interstices filled up with moss, which renders the dwelling cool in summer, and protected from the most part thatched, the entrance is intricate, and the visitor has to pass several doors previous to reaching the apartments, which are warmed by hot air conveyed through flues from a large fireplace or oven in the centre of the building. The remotest clearing in the interior of these dwellings amply compensates for the deficiency of external beauty. As a substitute for glass, large plates of mica, brought from Siberia, are used by all classes, except in the governor's house and the public buildings. A new church, in the oriental style, has lately been built near the beach. It is entirely of wood. The chief instrument employed in the construction of these buildings is a long knife, which the natives use with great dexterity. Most of the houses have gardens attached to them, for raising a few vegetables; in the governor's, at the time when we visited it, there were, potatoes, beans, legumes, radishes, and cabbages. The population of the town in 1826 was about 400, exclusive of the men数值 and of the women数值, and 1900 males and 1700 females, including the Aleoutak and Koriaen. Every family has one or two milch cows.

Travelling is performed on sledges, formed of a light tanned skin, sufficient to hold only one person with his skins, pack of provisions and his bag. It consists of two parallel logs, lying side by side, the sledges of two or three feet and eight inches broad, and distant from each other about eighteen inches, and a foot to a little at each end. On this vehicle, which is stained red and blue, and adorned with bits of cloth, there is a bench for the person who sits in the middle, with one foot on the piece of beef, the other provided with a sort of shoe attached to the vehicle by thongs. For the purpose of stopping it, they have a long stick armed at the point with iron, which they plunge into the snow at the forepart of the sledge; the upper end of it is provided with bells, which are shaken to urge the dogs to greater speed. To the vehicle are attached five, seven, or more dogs, always an old one as a leader, and they are guided by word of mouth. These dogs are of the wolf breed; they are ferocious, and burrow kennels for themselves in the snow, or under knolls of earth, and are fed generally on fish. They are very valuable, a good leader being worth 200 rupees, a large sum in Kamishatak. The same set of dogs will travel at a rate of eighty miles a day for two or three successive days.

The Russians have been so long residents among them, that the native Kamishatales are rarely seen in the town, and are generally employed in the mines. The iron, which they bring up from the mines, is of very inferior quality, and produces no market for it beyond the town. To the skinners, who are employed in the manufacture of their clothing for spirits, tobacco, iron implements, a supply of which is brought annually from Okhotok in the vessels which carry away the collection of furs made during the winter. Sable skins are chiefly sought; they are worth from twelve to twenty rupees in the town, and with the exception of the sea-otter, which is scarce, is the only valuable fur obtained; these two kinds are highly prized in China, their principal market. There are also foxes and wolves, and bears are very numerous, chiefly brown.

There are two posts from Petropaukovski to St. Petersburgh in the year, one in April, via Bolcheres and Okhotok, which takes four months; the other, in November, requires eight months, as the sea of Okhotok in the month of August is not to be navigable, and the whole journey must be performed by land, making the circuit of that sea.

Birch, poplar, and aspen are the principal trees: there are also willows. From the bark of the birch the natives make several domestic vessels, and building their houses with the bark. There are various sorts of berries growing wild, the whortle and cranberry very plentiful, and a wild garlice, of which the cattle are very fond, but which impregnates strongly the milk and butter with its unpleasant taste. The most abundant abundance of this: the natures are very fond: when roasted, it serves as bread; when boiled, for potatoes: it has rather a bitter taste, but is very nourishing.

At the head of the bay is the river Awaataik: it is nearly a quarter of a mile broad at the entrance, but soon gets nar...
row. It is very rapid, especially at the season of the snow-melting, and is said to continue its course 100 miles in a N.W. direction, but is so shallow even at its mouth, that it is only navigable for canoes. The small village of Awataska, consisting of eight or ten houses, is situated on the eastern point of entrance.

About five miles S.W. of this is the small river Parish, and the land between these two rivers is very low and swampy.

In the S.W. part of the bay is the spacious and commodious harbour of Tareinski, ten miles long, and three broad, affording every convenience for a naval and naval establishment of the largest kind, free from danger, easy of access, in short leaving nothing to be wished for as a harbour. In consequence of the high land, squalls arise with great violence, which must be guarded against, and the winds are very variable in the bay; but should the progress of commerce put the Pacific on an equality with the Atlantic as to trade (against which no reason can be urged), Awataska Bay must take its rank as one of the first in the world. The lighthouse at the entrance is in 51° 56' N., lat., 156° 47' E. long. Variation of the needle 4° 45' E.; inclination, 64° 52'.

The tides are regular and strong: it is high water, at full and change, at 3 hours 30 min. p.m.; the rise in the springs is 6 feet, in the ebb 2 feet. In the entrance the eddies are very strong.

AWE, LOCH, a fresh-water lake in Scotland, in the county of Argyll. It divides, for a part of its extent, the district of Lorn from that of Argyll Proper. From the head of the Loch (which is not above three or four miles eastward from the head of the inlet called Loch Carnaugh) the sheet of water extends in a north-eastern direction, without much winding in its shores, to the point where it receives the river Urchay, a distance of about twenty-three miles, measured on Langland's Map of Argyllshire; or twenty-four, measured on the Map of Scotland published by the Society for the Diffusion of Useful Knowledge. The breadth, on an average, very little exceeds a mile, measured on Langland's and the Society's Maps, and the greatest breadth is about a mile and a half. If we include the bay or recess from which the Awe flows, as mentioned below, we shall have nearly three miles for the greatest breadth. The General Report of Scotland gives twenty-five miles as the length, and the average breadth at about a mile, but The Beauties of Scotland, Playfair's Geographical and Statistical Description of Scotland, and Webster's Topographical Dict. of Scotland, give the length as thirty miles.

It receives several small streams from the mountains and hills which surround it. The account given in The Beauties of Scotland states that it receives a considerable river at each extremity, but this seems to be an error as far as regards the south-west extremity, which we have spoken of above as 'the head.' At the north-east extremity it receives the Ureby, or Orchy, which comes from the north-east and drains Glen-Ureby, or Glenorchy. On the north-west side, near the middle, it receives a stream from Loch a, a small lake about five or six miles long, and for the most part less than one broad, being distant from two to four miles north-west from Loch Awe.

Near the north-east end of Loch Awe there is a small bay running to the westward, which terminates in a river (the Awe) which enters Loch Etive, an inlet of the sea at Bunaw. From the entrance of the inlet to the mouth of the river is about eight or nine miles (Langland's and Society's Map); the length of the river alone, without the inlet, is about seven miles.

The surface of the loch near this part is studded with small islands, as Inshail, Frosch-Elan, Insh-Channel, Insh-Eath, &c. On Inshail are the ruins of a small Caernarvon convent, with its chapel, and on Insh-Eath the remains of a chapel. On Frosch-Elan are the remains, now trifling, of a castle, granted by King Alexander III. of Scotland to a chiefman, Gilbert M'Naughton, on condition of his entertaining the king whenever he passed that way. Insh-Channel was for several centuries a residence of the family of Argyll. On a rocky point of land jutting out into the loch, and connected by a flat wide meadow, evidently alluvial, with the higher shore, stands Castle Kilchoan, whose square keep was built in the time of Alexander, 2nd Earl of Argyll, by his ancestor, an ancestor of the Breadalbane family. Successive additions were made to it; and it was garrisoned, during the rebellion of 1745, by a party of the king's troopers, but has been since then going to decay. It is for remembrance in the history of the West Highland counties, not so much for the artistic beauty of its parts as for the perfect state of the ruins, than from the very picturesque arrangement of the buildings.

At this end of the Loch are all its chief natural beauties. Dr. M'Culloch, in his Highlands and Western Isles of Scotland, says that 'this great lake is that which lies between its upper extremity to Glenorchy and its exit. . . . To the mere traveller there is no inducement to pursue this long lake throughout its extensive course, as it lies in a dull and uninteresting tract of country, appearing from Inveraray the first views of the lakes are very striking, and, I may add, equally magnificent and wild. They are very different in character from those which appear in approaching from Tyndrum (an inn in Perthshire, from which you go by Glenorchy to the lake), the water appearing to be a confined basin inclosed among lofty mountains, rude and savage in their aspect, but lofty and grand; filling at once the eye and the picture, and literally towering to the clouds. The elevated ridge of the headland by the lake of Lomond is a conspicuous and picturesque boundary: majestic and simple, and throwing its dark shadow on the water, which, spacious as we know it to be, seems almost lost amid the magnitude of the surrounding objects. The castle of Kilchoan, hence a more spot on the whole, but very much deprived of the effect, as affording a scale and an object of comparison.'

Crunachan is a mountainous ridge, which presents some of the finest and most extensive mountain views in Scotland. It is computed to be thirteen or fourteen miles in circuit, sloping gently on the side towards the lake, except near the summit, where the ascent is more abrupt. The summit is divided into two points, each resembling a sugar-loaf. The height is 3669 feet above the level of the sea. The sides are covered with natural woods.

Loch Awe is estimated to be 105 feet above the level of the sea; like Loch Ness and some other lochs in Scotland, it is seldom subject to freezing. Its waters abound with the most delicious fish. The salmon are remarkably good, and the trout are nearly under thirty pounds weight. There are also many eels; but these last the Highlanders hold in abhorrence, concerning them water-serpents, unfit for the use of man.

Loch Avich, which may be considered as an appendage of Loch Awe, is as full of trout, and is the resort of gulls, cranes, eagles, and wild ducks.

At Bunaw, at the mouth of the river Awe, there is a quay for small vessels, which carry peat, ironstone, bars, help, and salmon to Whithaven. There was once a house for the furnaces at Bunaw, meal, coal, leather, &c.

The name Awe denotes water, or a river. The loch, and the river which forms its outlet, both bear it; and it is incorporated in the names Bun-aw and inter-aw. (M'Culloch's Highlands and Western Isles of Scotland; the John
AXH


AWN or ARI'STA, in Botany; the beard of grasses, is a rigid, often hairy, and frequently twisted bristle, proceeding from the back of some of the envelopes of the flower. It is often employed for systematic purposes, in consequence of the number of modifications to which it is subject. It appears to be one of the veins or ribs of the envelopes, unusually lengthened, and separated from the cellular substance to which it belongs.

AX.

A river rising close to a farm called Axmiller, near Chelington, in Dorsetshire, and flowing through Somerseth and Devonshire into the English Channel. Its course is at first westward about 11 miles; then turns to the S.W., and flows 5 or 8 miles, to Axminster; from thence it flows south, then the S.W., and then more to the south, about 9 miles, into the sea, near the village of Axmouth. Its whole course is thus about 23 or 24 miles. It flows through a deep valley between high hills. Its principal tributary is the Yart or Yarty, which rising in Staple hill, just within the border of Somerseth, flows almost due south about 14 miles, and joins the Ax below Axminster.

There is another river Ax in Somerseth, which rises in the S.W. slope of the Mendip Hills, in Wokey or Woake, flows about 12 miles, and its source flows first to the S.E., and then turning N.W. runs parallel to the range of hills in which it rises, into the Bristol Channel. Its whole course is about 24 miles. It flows through the town of Axbridge, which however is about a mile from the bank, about mid-way between the source and outlet. It receives the Cheddar water, which rises from the base of the Cheddar Cliffs [see Cheddar], and flowing between the town of Axbridge and the river Ax, joins the Ax below, about 10 miles, and 10 miles N.W. of Wells. It is a place of little importance, and the only manufacture is of knit stockings.

The town consists of one street about half a mile long, running in a westerly direction nearly east and west. It has a good market for corn, coal, and second-hand goods, and 2 or (according to some three) fairs in the year. The market-house and shambles are near the east end of the town, as is also the church, which stands on an eminence on the very verge of the town, and has a nave, a chancel, and north and south transepts; a chapel on each side the chancel, and a lofty tower at the western end. On the west side of the town, in a sache, stands the statue of a king with his sceptre, and on the west end of the town is a church, which has a churchyard with a church without a roof, and a churchyard with a church without a roof.

AXHOLM, ISLE OF; a river in the county of Lincoln. It is bounded on the eastern side by the Trent, and on the northern and northwestern sides by the river Don, which flows by Crowle, Luddington, and Garthorpe, then a short, serpentine, meandering, and confluence, and forms a boundary between Lincolnshire and Yorkshire. The old rivers of Erne and Idle formed the western boundary; and the ancient Bykersdyke, or Vickersdyke, which runs from Crowland Henry until it joins the Trent, forms the eastern side. In early times the old Don was navigable, and boats could pass by it into the Trent. (See Dugdale's History of Bedfordshire and Drawing.)

The Axmouth is about seventeen or eighteen miles from N.B., and, on the average, five or six miles broad from K. to E., except in the northern part, where it becomes narrower and ends in a point. It includes a small portion of the county of Nottingham, in the parish of Darley, and the village of (and probably the township of) West Street. Leland in his Itinerary (drawn up in the reign of Henry VIII.) gives the dimensions of Axholme as ten miles in length, and six in breadth. The name of Axholme became a corruption of Axel-holme; formed from the name of the principal place Axel (now Axey, a mere village), and the termination holme, which was used by Saxons to denote a river-island.

In the middle ages, and indeed till within the last 500 years or thereabout, Axholme was a most degree with marshes, especially in the western and eastern parts. At a remote period it was a forest, part perhaps of the great forest of the Brigantes who inhabited Yorkshire. Its woods will appear by the following extract from the work of Sir William Dugdale already referred to, which was published in 1662:—

'Being now come into Lincolnshire, I shall first begin with the Isle of Axholme, which for many ages hath been a fenny tract, and for the most part covered with waters; but more antiently not so: for originally it was a woody country, and not at all annoyed with those inundations of the rivers that passed through it, as is most evident by the great numbers of oak, fir, and other trees, which have been seen in many parts. It is indeed true that the ditches and channels for the draining thereof; the oak trees lying somewhat above three foot in depth, and near their roots, which do still stand as they grew, namely, in firm and dry soil below the bank, the low water of the N.W. from the roots, not cut down with axes, but burnt soonowater near the ground, as the ends of them, being covered, did manifest. Of which sort there are multitudes, and of an extraordinary bigness—namely, five yards near the root, which stood likewise as it grew, and was not burnt and not hewed down; these trees are at the bottom ten inches square, and at the top eight.'

About twenty years since, also, in the moors at Thorne (near five foot in depth), was found a ladder of fir of a large dimension, with its branches shoots, burnt down, and a cross, and has a nave, a chancel, and north and south transepts; a chapel on each side the chancel, and a lofty tower at the western end. On the west side of the town, in a sache, stands the statue of a king with his sceptre, and on the west end of the town is a church, which has a churchyard with a church without a roof; but so rotten, that it could not be gotten up whole. And in Axey Carr, at the like depth, a sache with stakes and bindings.

The truth is, that there are so great a number of trees thus overgrown with moss, through a long time of stagnation by the fresh waters in these parts, that the inhabitants have for the space of divers years last past taken up at least two thousand cart-loads in a year.

As to the time when this water (which extends itself into Dikes Marsh and Hatfield Chase in Yorkshire) became first thus overflowed I cannot say anything, there being not any memorial thereof transmitted to us from the light of history or records; but that it hath been so for divers hundreds of years the depth of the moor doth sufficiently manifest, which could not in a few ages grow to that thickness it is of. Howbeit, as to the occasion thereof, I may reasonably conclude it to have been through the inundations of the constant tides, which, flowing up [the] Humber into [the] Trent, did have great power to obstruct the currents of [the] Idle, [the] Don, and other rivers, that, having not their free passage as formerly, they flowed back, and overwhelmed that flat country with water, as much as the depth of the water in time is an unknown quantity, as it is still [we see] called; and a place so defendable, in respect of the spaciousness and depth of the waters environs it, that Roger Lord Mowbray, an eminent baron of this realm in King Henry II. time, and then lord thereof, adhering to this water, so that he did rear thereon a gable and thither and fortified an old castle, which had been long ruinous; for reducing whereof to the king's obedience the Lincolnshire men, having no other access thereto, transported themselves by shipping in the year 1174. So the Axholme.

* The views of this country (which was once a mere swamp or mere the Axmouth) are described by Leland on the south side of the churchyard of Osen (now Osen). The cause was taken on the occasion above-mentioned and rased.
was in [the] 16th year of K [early] III., after the battle of Evesham, when the rebellious barons were disinherited, some of them fled hither as to a place of security, for the reasons above expressed. But after that time it was not long ere the inhabitants of these parts, imitating the good husbandry of those in the northern counties, who had, by banking of ditches, made good improvements in such fenny places, did begin to do the like here; for in the last year of King K [early] III., I find that Robert de Nottingham and Roger de Newmarch were constituted commissaries to repair the banks and ditches, as had been made to that purpose, which were then grown to some decay.* (eh. xxvii.)

Many commissaries were appointed for a like purpose in after times, but still a vast extent of marshy waste remained in that part of the fenfield Chase, which was the neighbourhood, the whole forming a vast level. The impediment to the natural course of the rivers continued; and the water even in summer was in many places three feet deep, so that boats laden with grain passed over the fenfield Chase, and large boats, with twenty quarters of corn in them, crossed the island from the Isle to the Trent. Sixty thousand acres were estimated to be thus overflowed. (Dugdale, as above.)

In the reign of King Charles I., however, the drainage of this level was attempted on a large scale. It had, together with Hatfield Chase, come into the hands of the king as feudal superior; and he, in the second year of his reign (1628), concluded an agreement with Cornelius Vermuyden, or Vermuyden of London, and Robert de Nottingham, lord of the province of Zealand, who undertook, with the support of many of his countrymen, to drain the marshes at his own charge, on condition of receiving one-third of the land so recovered, to hold of the said king, his heirs and successors for ever. For the furtherance of this work, the king granted to Vermuyden the fenfield Chase, and a large part of the fenland, and all the lands in the neighbourhood, including the island of Hatfield Chase, and the island of the fenfield Chase, and the large islands on the river Trent. (Dugdale, as above.)

The work was completed on the 1st of October 1634, and the level was drained by a system of canals and sluices, and the water was conveyed from the Trent to the sea by means of a series of channels, and by a large number of watercourses, known as the "Snow sewer." The work was financed by a royal grant of land, and a rent of one-third of the land reclaimed. (Dugdale, as above.)

The work was well received, and the drainage of the fenland was completed by 1637. Vermuyden was paid for his work, and his influence in the area increased. (Dugdale, as above.)

The drainage of the fenland was an important step in the development of the area, and it laid the foundations for the later industrial development of the region. The drainage of the fenland was a major achievement, and it is one of the most significant events in the history of the area. (Dugdale, as above.)

During the Protectorate, the confusion in the island seems to have continued, and for half a century after the restoration of Charles II., there was no traffic being; but the outside world was not to have the great part of the island at that time present. Nearly three years after the original compact between the crown and Vermuyden, a further grant of the remaining interest of the crown in the level was made over to the latter, for a specified time and a consideration. The rent had been granted by Charles I. to the second Duke of Buckingham, and upon his being declared deposing, had been seized by the state. During the civil war, the troubled times which followed, it had run much ease. (Dugdale, as above.)

In the reign of the new king, the hatred of the king, who, while making the tour of Europe, had engaged in the extraordinary affray of Massainello, at Naples, and had been secretary to that personage, was appointed to collect the rent and the arrears. To keep down the insurgents, they were to be armed and to do force, and to draw up by him in the latter part of his life (1702) he states that he had obtained several writs of assistance, and orders of the House of Lords, and deportations from the sheriff of the three counties; he had provided horses and necessaries, with twenty hired men, and often moved with a surgeon in ordinary; and had, after thirty-one set battles, wherein many of his men were killed, wounded, and lamed, besides numerous mutual indentures, provokes and actions at law, reduced the common inhabitants in obedience, repaired the church, settled another minister, and rendered the district quiet and safe, his son's crops were destroyed in 1712.* Few probably suspect that such disorders could have occurred in England at that time for so long pCuriously conserving the county.

The litigation between the 'commissaries' of Evesham and the settlers continued till 1719. In 1691 a new decree was obtained, awarding to the commissaries (including those of Musterton) 10,535 acres, and leaving only 1000 to the settlers. This consideration, however, was obtained from the Bank, which had indeed acted as the friend and adviser of Vermuyden throughout the whole proceedings, was unfair, and that the opposition, however violently conducted, was not groundless. But the commissaries were not satisfied. They continued proceedings in the House of Lords till 1719, when
these hill was dismantled with costs, and thus the affair ended.
For fuller particulars we refer the reader to Sir William Dugdale's work already mentioned, and Mr. Hunter's Southtown.

It may be mentioned, that Vermuyden himself retired from the concern, after sustaining considerable loss, before the year 1835; and of the foreigners who settled in the level, few, if any, of the descendants remain in the district as yet.

The soil and natural productions of the island are thus described by Leland: "From the west point of Bikern Dale up along (the Idle) to the great mere, the soyle by the water is sunny and morischo and hal of carvases (marshes)." There is a great market held on the pond of the same name.

The principal wood of the isle is at Bellegrove Park, by Heppworth (Epworth), and at Malwood Park, not far from Heppworth. There is also a pricky wood at Crocleo (Crowle), a place belonging to the Manor of Atolebor. The town of Atolebor is said to have been dismantled; but during the spring (from March to May), there is still a cattle market on Monday in every alternate week; there are also three fairs, for cattle, flax, and hemp; and the petty sessions are held here. The church, which is very ancient, presents a fine specimen of Norman (or, as many term it, Saxon) architecture. The living is a vicarage.

There is a charity school, supported partly by endowment, partly by subscriptions; and two meeting-houses, one for Wesleyans, the other for Methodists.

Atolebor was 7 miles south of Crowle, and 11 N. by W. of Gainsborough. It is a long straggling town, the inhabitants of which are chiefly employed in spinning flax and hemp (which, as observed above, are grown in the island), and in the manufacture of sacking and bagging. The market is on Thursday, and there are two fairs in the island. The island was a dependent of Crowle, and was granted by Henry II. to Crowle for many years by the Rev. Samuel Wesley, the father of the celebrated John Wesley, the founder of the Wesleyan Methodists, who was born here; as was also his brother and coadjutor, Charles Wesley; and the Bainforth and Keadby canal, which crosses the island and connects the Don with the Trent, passes within a mile of the town.

Epworth is 7 miles south of Crowle, and 11 N. by W. of Gainsborough. It is a long straggling town, the inhabitants of which are chiefly employed in spinning flax and hemp (which, as observed above, are grown in the island), and in the manufacture of sacking and bagging. The market is on Thursday, and there are two fairs in the island. The island was a dependent of Crowle, and was granted by Henry II. to Crowle for many years by the Rev. Samuel Wesley, the father of the celebrated John Wesley, the founder of the Wesleyan Methodists, who was born here; as was also his brother and coadjutor, Charles Wesley; and the Bainforth and Keadby canal, which crosses the island and connects the Don with the Trent, passes within a mile of the town.

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The axioms of all leaves contain rudiments of a bud in a greater or less degree of perfection, and are capable, under favourable circumstances, of bringing it to full development. Gardener sometimes profit by a knowledge of this law, to propagate plants in a manner different from the natural manner in which the leaves are arranged upon the stem, it would be impossible to increase their number by the ordinary modes. Thus a hyacinth bulb is a short branch with rudimentary leaves, called scales, growing closely over all its surface; and consequently at the axil of each rudimentary leaf there exists a bud either latent or manifest. Under ordinary circumstances, two or three only of these buds develop near the outside of the bulb, in the form of crozes, or young buds; but if, at the time when the bulb is just beginning to grow, the scales are cut away in a manner either by cutting it across or searing it with a hot iron, the nutritive matter which was laid up in the bulb, not being expended upon producing flowers and leaves, will be diverted into other channels, and excerting its vital force upon the axillary buds, will cause them to develop in great numbers; and thus the hyacinth will be increased with rapidity, instead of by the slow production of two or three crozes yearly.

Although buds, or bulrush, which is the same thing, are universally axillary to leaves, and, indeed, to every part which is theoretically a modification of a leaf; yet one leaf cannot be axillary to another leaf, although it may seem so in consequence of the inceptive development of an axillary branch to whose system it belongs. Thus in pine trees the clustered, needle-shaped leaves seem to be axillary to the withering rudimentary leaf that grows round their base; but in reality each cluster of leaves is a small branch without perceptible axis, as is proved by the cedar of Lebanon, where the axis sometimes lengthens and sometimes does not.

AXINITE. This mineral usually occurs crystallized in flat, prismatic crystals, with very sharp edges, from which it has received its name. The fundamental form is a double oblique prism, from which Neumann has obtained the following angles:

\[ P = 132^\circ 24' \quad M = 134^\circ 48' \quad T = 68^\circ 39' \]

It is imperfectly cleavable in the direction of the faces M and P. Its colour is brown, sometimes inclining to plum blue; sometimes transparent, at other times only translucent on the edges; its lustre is vitreous. The specific gravity of crystallized variety from Cornwall is stated by Mois to be 2.971, and its hardness 6.5 to 7.

Before the blowpipe it readily fuses with intumescence into a dark green glass, which in the oxidizing flame becomes black on account of the presence of superoxides of manganese. With horax the glass is either green from iron or an amethyst tint from manganese, according as it has been exposed to the interior or exterior flame of the blow-pipe. By fusing it with sulphate of ammonium and flour-spar, the presence of borax may be detected. The following is an analysis by Wiegmann of a variety from Tresseburg, Hartz:—

<table>
<thead>
<tr>
<th>Substance</th>
<th>Specific Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica</td>
<td>43.80</td>
</tr>
<tr>
<td>Alumina</td>
<td>18.40</td>
</tr>
<tr>
<td>Alumine</td>
<td>12.50</td>
</tr>
<tr>
<td>Prussia</td>
<td>12.25</td>
</tr>
<tr>
<td>Manganate</td>
<td>9.00</td>
</tr>
<tr>
<td>Magnesia</td>
<td>0.25</td>
</tr>
<tr>
<td>Borax</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Borax, however, has marked the iron and manganese as protomites.

The mineral is not very abundant; it is found at Thun in Saxony, where it is sometimes called Thumstone. It occurs at Botallach near the land's end, Cornwall, both crystallized, and forming a rock with tourmaline and garnet.

AXIOM, a word derived from the Greek ἀξίωμα, which is formed from the Greek verb ἀξίζω, to think worthy of; and thence to desire or demand. It was not used in the time of Euclid, by whom the principles which we call axioms are termed "postulata," or common things. The word was not in universal use as late as the year 1600, at which date we find "communis sententia," preferred to "axiom." (See Charles's edition of Euclid, Paris, 1559.)

The term axiom was originally peculiar to geometry, in which science it means a proposition adopted on account of the use to be taken for granted. It is usual to define an axiom as a self-evident proposition; but this, though a true description of all the axioms which are found necessary, is not a definition of what is self-evident. In the first place, the geometer must deduce the properties of space in the best way he can, from the smallest possible number of the most evident principles; and it must be his study to choose them, that his own mind, or that of his pupil or opponent, shall be at the least possible degree of labor.

But he cannot say beforehand that he has an axiom shall be deduced from self-evident principles. Imagine a person of cultivated reasoning powers first approaching geometry, and capable of being made to take a view of the general objects of the science. It would not appear to him certain that he should be able to deduce all the properties of figure from those which are self-evident; on the contrary, he might suspect that he would be obliged to have recourse to the usual methods, in all their commonest preliminaries. At least no answer could be given to him of he did express such a suspicion, except a reference to the science itself; and this clings an axiom, defined as a self-evident proposition, with a condition which can only be verified by the study of the science.

In the second place, a self-evident proposition, as much ought not to be called an axiom, because it is not admitted as such in geometry, however evident it may be, provided it can be proved from those propositions which are called axioms.

Thus, two sides of a triangle are greater than the third, has a greater degree of evidence than some of the admitted axioms; yet it is not taken for granted, because it can be deduced from these.

The Epicureans are said to have laughed at geometry because, among other things, it proves the proposition that two sides of a triangle are greater than the third; which, said they, is evident even to a jackass, who always makes practical use of it in going from one place to another. Thus evidently arises from the mistake that a geometrical axiom is self-evident, and that all self-evident propositions ought to be axioms.

And the oldest remaining opponent of geometry, Sextus Empiricus, has a chapter upon the subject (Physiocrates Hippolytopus, lib. ii. cap. 111), on which of the most noted things of this kind, it is averred, that the axioms of geometry themselves are much clearer than the axioms of metaphysics, on which the opposition to them is grounded. For it is not to be supposed that the opponents of axioms take first principles which are evident to them as principles, but of the same part, or that 'two straight lines cannot enclose a space.'

The necessity that there should be some axioms is evident from the process of reasoning. The deduction of propositions from the comparison of other propositions must have a beginning somewhere, so that there must be at least two propositions to begin with, the evidence of which is derived from other sources than reasoning. Every attempt which has been made to dispose with axioms altogether has been as much expected, as it could be other than, or other in the process assumed theorems have been found.

The more modern discussions which have arisen about axioms appear to us to proceed from some fallacy of that sort, that the idea conveyed by the whole of a sentence must be more cogent than that of any one part, or at least, that it must at all events be easier to understand separately upon the consideration of the auxiliary forms of speech in which a simple idea is conveyed, before that idea can be said to be explained. As an instance, in that most simple of all propositions, 'two and two are four,' which by itself is comprehended as soon as spoken, we have the (by itself) difficult phrases 'are the same, implying identity, and leading, if pursued far enough, to many other abstruse applications of the word.'

In proper science, and considered with reference to other objects, are not misplaced; but, as applied to geometry, are not only unnecessary, but subversive of the natural order of
reasoning: for however much may be said upon maxims, axioms, first principles, or by whatever name they may be called, there remains the simple proposition, 'two and two are the same as four,' clearer, as a whole, than any one of the explanations, illustrations, or comments, which have been brought to its aid. There is, however, this to be said for many writers who have endeavoured to make such points better known than they are already; namely, that the older writers, in their love of what is called the a priori method, had filled their books with notions against which it was necessarily impossible toası explain or to analyse, a confirmed habit of reasoning upon the nature of self-evident propositions. Locke (Book iv. chap. 7) on Maxims can hardly be intelligible to a reader who has not some knowledge of what the school of modern speculation signifies, unless it were resolved it was necessary to contend both against words without meaning, as when they said some such thing as that knowledge is the likeness of the thing known, formed in the knowing faculty: and also against errors, such as general propositions are known, at least sometimes, before particular ones. The axioms employed by Euclid, and which have been for the most part adopted by other writers on geometry, are evidently constructed with a very close attention to meta-

physic distinctions, and for the purpose of introducing the defini

6. Let it be granted, from any point to any point, to draw a straight line. 2. Also, to lengthen a finished straight line, and continue it straight. 3. Also, with any centre and radius (intercepta, meaning interval measured from that centre) to describe a circle. 4. All things which are double to the same are equal to another. 5. Also, if equals be added to equals, the wholes are equals. 6. Also, if from equals equals be taken, the remainders are equals. 7. Also, if to unequal equals be added, the wholes are unequal. 8. Also, if from unequal equals be taken, the remainders are unequal. 9. Also, things which are double of the same are equal to one another. 10. Also, things which are halves of the same are equal to one another. 11. Also, things which fit one another (have the same boundary) are equal. 12. Also, the whole is greater than the part. 13. Also, all right angles are equal to one another. 14. If, a straight line, falling upon two straight lines, make the angles which are within and upon the same side less than two right angles, the two straight lines, being lengthened without convergence together, will meet upon that side on which are the angles less than two right angles.] 15. Also, two straight lines cannot inclose a space. 16. The two axioms. 10 and 11, enclosed in brackets, is in some measure peculiar: for this last has no doubt was the true original; for it will be observed that they have no claim to be headed euclièmes (common notions), being propositions of some little intricacy, though they are, in their form, things demanded as necessary to establish the of the general proposition. There is nothing in the words of Euclid which implies that he wished to separate 'problems granted without construction' from 'theo-

1. Those of which the truth is conveyed in the words themselves, and which could not be denied without altering the meaning of the words. These are the eighth and ninth of the 'common notions.' 2. Those which have no peculiar reference to geometry, but are true of all kinds of magnitude, as well as of spaces or lengths. These are the first seven of the 'common notions.' 3. Those which have direct reference to geometry. These are the three demands or postulates, and the last three of the 'common notions.' What is required to be conceded in the three postulates, is not that a straight line or circle can be imagined to be drawn, in the sense usually attached to these words, but that the geometrical line can be drawn, which is length without breadth. This is impossible, me-

chaneously speaking, the line being a conception of the mind which cannot be executed. [See Line.] The tendency indicates that a self-evident property of the straight line, a term incapable of other defini-

tion than that which is contained in its proprieties; that is, we can make no use of the obvious notions conveyed in the words 'straight line,' unless we admit some one or other of its distinguishing characteristics, which is more definite than saying that it lies evenly between its extreme points. We might appear to deny thereby saying, let the name 'straight line' be given to that species which is under any circumstances, inclose a space; but in that case we should need another axiom—namely, we should require it to be granted that there is such a thing as the straight line, and that we have not an absurd contradiction in supposing the above species of lines to exist. It must be remembered, that though the definitions are placed at the beginning in Euclid, it is not thereby implied that the terms defined are really possible. Let lines which, being in the most remote places, do not meet if produced, be called parallels, does not mean us to assume that such lines do exist, but only, that when they shall have been proved to exist, the name by which it is agreed to call them has been given.

The axiom 10 is a theorem of more difficulty than the subject requires, since, with one additional assumption respecting the straight line, it admits of proof. The assumption previously discussed, namely, that two straight lines cannot inclose a space, is very evident; and that two straight lines coincide in two points, or if two different points of the one can be made to lie upon two different points of the other, the portions of the straight lines lying between these points coincide entirely. Let it be granted, in addition, that the parts which are not coincident are both parallel to one side (an equally evident proposition), and the 10th axiom of Euclid admits of proof. Euclid, in taking this axiom for granted, makes use of it to prove our additional assumption, not that a straight line may be produced, but that it is, as he phrases it, 'to form a common segment;' that is, two lines cannot coincide between two points and not coincide elsewhere. But, of two propositions, one of which it is found necessary to assume, that one should be the more simple of the two. In the theorem of some difficulty, neither self-evident, nor even easily made evident, is not at all required in the form given, even in Euclid. For he proves, without its assistance, that if the two lines there mentioned meet, it must be on the side on which the angles are less than two right angles. It may be reduced to a very evident form as follows: If a straight line be taken, and a point exterior to it, of all the straight lines which can be drawn through the point, one only will be parallel to the first-mentioned straight line. The whole assumption lies in the word only; for Euclid shows, without the help of this axiom, that a parallel can be drawn, and how to draw it. This axiom is the cause of the celebrated discussion on the theory of Parallelism, under which head it will be more carefully described.

It appears, then, that geometry is established upon two results of observation, experiment or intuition, by whichever name it may be called, independently of axioms which are common to the whole science of quantity, and excluding propositions of the possibility of certain notions laid down. These two propositions are—

1. That two indefinitely extended straight lines, which coincide in two points, coincide altogether in every part. 2. That the straight lines which can be drawn through a given point, meet any other line in the same plane (with the exception of one at most) if produced far enough.

At the same time, many other tacit assumptions may be met with in Euclid which are not formally placed among the axioms. In the first proposition for instance, it is tacitly assumed that two circles, one of which is partly within and partly without the other, will meet in one point at least: in the fourth, it is assumed that change of place, without change of form, is possible. These also would not be expressed among the formal axioms we find 'the whole is greater than its part;' after which we have a right to conclude that no proposition, however evident, will be taken for granted without being distinctly and formally enun-

ciated as an axiom.

AXI6. AXK. This word is used in so many different senses, that it may be defined as follows: any line whatsoever which it is convenient to distinguish by a specific term with respect to any motion or other phenomenon considered. Thus, we have a line of motion, of oscillation, of inertia, of rotation, of polarisation, &c., under which heads definitions will be given.
The word, when used by itself, generally means either axis of Rotation, or axis of Symmetry. An axis of rotation, or revolution, is the line about which a body turns; an axis of symmetry is a line on both sides of which the parts of the body are disposed in the same manner, so that at whatever distance it extends in one direction from the axis it extends as far in the direction exact opposite. Or if perpendicular to the axis be drawn from all points and in all directions through the body, the whole of each perpendicular which is within the limits of the body will be bisected by the axis. Such is the middle line of a cone, any diameter of a sphere, the line drawn through the middle of the opposite faces of a cube, &c.

AXIUS, a species of Indian deer. The word is also used generically to denote a small group or subgenus of saddle-backed mammals with slender limbs, inhabiting the same climate as the common axis. [See Damr.]

AXIUS, in zoology, a genus of long-tailed decepted cricetans, founded by Leach on Arix eurypus, which is about three inches, or three inches and a half in length, and rarely found on our coasts. It has been taken near Sidmouth and Plymouth. Desmarest, with much reason, considers this genus entirely artificial, and thinks that it ought not to be separated from Calomysces. [See Calomysces.]

AXIUS, a river of Macedonia, now called Vardar, which empties itself into the Gulf of Salonica near the western part of the bay. The alluvial depictions have encroached greatly on the gulf, leaving a low and swampy land, interspersed with numerous small branches forming inlets of high reeds, and rendering the principal branch difficult to discover. The entrance is very intricate, being much obstructed by shoals and sandbanks, but the river is navigable for the large country boats (from twenty-five to thirty tons) for several miles. It runs about N. by W. nearly a straight course for eight miles, when it is joined from the eastward by a small stream navigable for boats (possibly the ancient Echeidna); then taking a more westerly direction, it becomes more tortuous. Four miles above the junction is a ferry on the road from Salonica to Thessaly, and about as many miles higher up the river is crossed by a solid wooden bridge on the road to Polis. The delta of the river depends on the season of the year: during the summer there is not more than four feet under the bridge; but as the bottom is of soft sand, it is hazardous to ford. From this point downwards the river appears to have debouched from its ancient bed, which may still be traced about six miles from Salonica to the west, and to have taken a more westerly direction; it is now joined, about a league from the sea, by the Kasa Armak (apparently the ancient Lydas), flowing from the north of Polis. The nearest point of the river is now about sixteen miles west of the town of Salonica, whereas there is a carriage road to Polis.

The Axios has its sources in the ranges between Scardus and Orthodox, about ninety miles in the interior; it is joined by several small streams, but possess no town of importance. Macedonians (vu. 154) descend the Echeidna as far as through Mygdonis, and encroaching the gulf in or close to the marsh at the mouth of the Axios. In the age of the historian to the Axios was the boundary between Mygdonis on the east, and Boiotia on the west, along the shores of the gulf. The topographer of Strabo (book VIII.) says that the Axios is a muddy stream: he also states that a branch or channel of the Axios runs into that lake in which Pella stands, and out of which the Lydus flows into the gulf. According to Herodotus (vu. 197) the Lydus and the Athamon united before they reached the sea. This does not appear to be the case at present. [See Cousin's 'Macaronis.]

AXIMINSTER, a market-town in the hundred of Axminster, county of Devon, on the road from London to Exeter, 147 miles S.W. of the W.S.W. of the latter. It is called Axminster in Domesday Book, and Axymyster in old writings. It is said that the name is owing to King Athelstan having given the church to seven priests who were to pray for the souls of certain earls and the last king of the house of Ceridwen in this neighbourhth. The college was not built up after the death of the first members.

The town is on the left or S. E. bank of the river Ax or Axe, and is irregularly built on the side of a little hill rising from the river. There are three great stiles in the walled enclosure, presenting the same character, and indicating the ecclesiastic with a mutilated effigy. Besides the parish church, there are three places of worship belonging respectively to the Roman Catholics, Independents, and Methodists.

The chief manufacture of the place is carpets. In 1835 it rivalled the productions of Turkey and Persia so successfully, that the carpets of Axminster are considered little inferior to those imported. They are woven on an entire piece of ground, without a single seam, and are made of wool, and there are also made. There is a market on Monday; but the business done in corn has become inconsiderable. There are three (or, according to some authorities, four) fairs in the year, chiefly for cattle. The population of the parish (which is divided into the several hundreds of Axminster and of Axminster) is 3212. The church is a contemptible edifice with a mutilated effigy. Besides the parish church, there are three places of worship belonging respectively to the Roman Catholics, Independents, and Methodists.

The manufacture of Axminster was the property of the Crown. King John bestowed it on the Lord Browne or Brouwer. After some changes it came to the Cistercian Monastery at Newnham, since very scanty remains of which are still seen near the town: and upon the dissolution of the monastery in the reign of Henry VIII. it fell again to the Crown. James I. granted it to Sir W. P. de P. Peires, afterwards Lord Peires, in whose family it still remains. It is said there was formerly a castle at Axminster.

In an action near this town, between the Rivezians and Parliamentarians, in 1645, the Prince of Orange was captured, and was afterwards rescued from other powers, under the influence of the peace made by Sir R. Cholmondeley, who commanded the forces that was killed.

The Rev. Mr. Thwaite Towgood, an eminent Dissenting minister of Exeter, was born to this parish.

[The baronetcy of the Barons of Axminster, in the dignity of Magna Britannia; and his baronetcy in the dignity of Gentleman, in the barony of the Barons of Axminster.]

AXOLOTL (Ambystoma mexicanum), a singular genus of batrachian reptiles, belonging to the percombranchiate family, or those which retain their gills throughout life, and distink species of the same family by having four feet, furnished with toes before and five behind. This very remarkable group, containing at present but four small genera — the Axolotl, the Ambystoma, the Proteus and the Necturus — comprises the genus Ambystoma, which Whitman has divided into two subgenera, one bearing both lungs and gills, and which are consequently organized to live either on land or in water. These, therefore, are, strictly speaking, the only true Ambystoma in nature; for though there is still a fourth genus, and meet the Axolotl in a manner that resembles the Cordyloba, see Axolotl; note the lateral meaning of the word restricts it to the new species not given to it, and excludes not only the reptiles in general, but the Axolotl in particular. It has been applied to it, but even the more ordinary
brachichians—the frogs, the toads, and the salamanders—which, though furnished with gills in their tadpole state, lose them as soon as the lungs are developed, and at no period of their lives possess this double organization simultaneously. The transitory union of these two great systems of respiration, as exhibited in the tadpoles of the croakies, toads, and salamanders, and how it is seen to naturalists and physiologists; but their permanent and simultaneous existence was a fact much out of the way of common experience, so that it is not surprising that zoologists should have received it at first with doubt and hesitation, on which they, and we ourselves, could not pass any judgment. The animal, as we now know it, is the young of the ancient genus of reptiles, which, in common with all other animals, has a branchial apparatus in its tadpole stage, which serves to supply it with air during its development before the organs of respiration developed. Repeated observations, however, have made this view universally admitted, that certain reptiles not only possess both these respiratory systems at the same time, but even preserve them permanently throughout their entire lives, and can consequently breathe either air or water according to the circumstances in which they happen to be placed.

Among the animals thus circumstanced, the axolotl was particularly remarkable, because its branchial apparatus, long before any other species. At the period of the Mexican conquest, the Spaniards found this animal in great abundance in the lake which surrounds the city of Mexico, to the inhabitants of which it furnished, as it still continues to furnish, an article of food. Hernandez, who seems to be the first writer who actually described the axolotl, expressly mentions having been thus used by the ancient Mexicans, and adds, that the flesh was considered as an aphrodisiac, that it was wholesome and agreeable, and tasted not unlike elk. Succeeding authors, without taking the trouble of observing for themselves, were content to copy what Hernandez had said before; but distorting his short description by absurd comments of their own, and adding the figures of far different species, the whole subject became at length involved in such inextricable confusion, that finally all memory of the axolotl was lost, or the animal itself considered as a fictitious being. The late Dr. Shaw, however, who received a specimen of the animal direct from Mexico, and to which the axolotl of Hernandez refers, is justified by his having used the generic term, Gyrrinus, in his account of it published in the Naturalist's Miscellany, which had been originally applied to it by its first describer, though Baron Cuvier seems to have deprived the Briton of this credit, and to ascribe the sole honour of rediscovering the axolotl to Baron Humboldt. It is indeed true that Dr. Shaw subsequently described the same animal, in the third volume of his General Zoology, under the very different name of stenops, that he considered it, as Baron Cuvier was himself afterwards inclined to do, not as a perfect animal, not in fact as the type of a new genus, but rather as the immature state of some species belonging to a genus already known. To Baron Cuvier himself, however, we are indebted for the complete description and elucidation of the form and organic structure of this curious reptile. Two specimens, brought by M. Humboldt from Mexico, were submitted to the examination of the French naturalist, whose researches on the structure of the stomach, and the muscles, nerves, and arteries of the tadpole stage, and the gradual change which they undergo in passing from this stage to their mature and perfect form, led Baron Cuvier to establish as an unquestionable fact, that certain of these animals retain both lungs and gills through-out their entire lives, an opinion which he had previously expressed in his work on the stem and proteus. He was disposed to consider the axolotl as the tadpole of some of the larger species of the ancient salamanders, an error induced as well by the general similarity of these animals to one another as by the immature age of the specimens of the axolotl which were submitted to his observation. Succeeding naturalists adopted M. Cuvier's views upon this subject; but that

great zoologist himself subsequently altered his original opinion, and candidly confesses in the second edition of the Regne Animal, that the concurrent testimony of all original observers overbalances the mere deductions of the physiologist, however plausible or apparently well founded. He has accordingly admitted the claim of the axolotl to rank as a new genus in the Systema Naturae, but as he has not provided it with a proper generic name, it is but justice to Hernandez and Dr. Shaw to retain that of gyrrinus, by which it was originally distinguished and described; and which, though perhaps not exactly intended by either of these authors to be taken in the strict acceptance of a modern generic appellation, may nevertheless, and particularly in the present advanced state of the science, be considered in this technical sense with considerable advantage to zoology.

The generic characters of the genus gyrrinus then, in addition to those already reported, consist in having the gills formed of three long ramified or branch-like processes on each side of the neck, four toes on the anterior extremities, and five on the posterior, and teeth in the vomer, as well as in both jaws. The tail is compressed on the sides like that of the common water-newt (salamandra palustris), and surrounded both on the upper and under surfaces by a thin, erect membranous fin, which is prolonged upon the back, but becomes gradually narrowed or tapering as it approaches the shoulders, between which it finally ceases. The head is broad and flat, the nose blunt, the eyes situated near the muzzle, the tail nearly as long as the body, and the toes unconnected by intermediate membranes. The singular ovaries lying between the gills will be best understood from the accompanying figure, which represents the under jaw and throat of the animal as seen from beneath. One species only is known at present—

[Axolotl. Gyrrinus edulis.]

The Axolotl of the Mexicans (Gyrrinus Edulis, Hernandez), when full grown, measures about eight or nine inches in length; its ground colour is a uniform deep brown, thickly mottled both on the upper and under surfaces of the head and body, as well as on the limbs, tail, and dorsal and caudal fins, with numerous small, round, black spots. The head and body are larger and broader than in the generality of reptiles, and but for the long tail which terminates the latter, the whole animal might be not inaptly compared in form to a large frog; the gills are prolonged into three principal processes, with numerous smaller ramifications from the sides of each, the whole being as long as the fore legs, and resembling three small branches; the legs are short though fully developed, and the toes are long, slender, separate, and without claws. The communications which open from the gills into the mouth are four in number, and of a size considerably larger than those of the kindred
such is a description of the only species of this genus which has been hitherto distinctly characterised. M. de Beauvois has, indeed, described an animal under the name of *Siren Operculata*, which, if not the Azoloi of M. Lacepede, is scarcely to be at least a very closely-allied species, but we do not possess data upon the subject to warrant us in considering it, even temporarily, as a second species of the present genus. Still it is highly probable that further researches will furnish the means of distinguishing other kinds species, and travellers and observers who have the opportunity could not employ themselves more agreeably than in pursuing this curious and interesting inquiry. The Azoloi is very common in the lake of Mexico, and, according to Baron Humboldt, likewise inhabits the cold waters of mountain lakes at much greater elevation above the level of the sea than the plains surrounding that city. It is commonly sold in the markets of Mexico, and esteemed by the inhabitants; it is dressed after the manner of stewed cels, and served up with a rich and stimulating sauce.

**AXUM**, a town of Abyssinia, in about 14° 7' N. lat. and about 120 miles from Arkeeko, on the coast of the Red Sea. The most recent published account that we have of this place is from Mr. Salt, the late British consul in Egypt; that of Rüppell, a German traveller in Abyssinia, is not yet published. The town stands 'partly in and partly at the mouth of a foss formed by two rivers on the N. end of an extensive and fertile valley, which is watered by a small stream.' One of the objects that first strikes a traveller is a small plain obelisk, with the remains of many others lying near it; but the great curiosity is the large obelisk, a kip of granite, in the middle of the town. It stands near a large Daroo, or fig sycamore, as it is represented in Plate XX. of the folio coloured engravings that accompany Salt's work. This obelisk has no hieroglyphics upon it like those of Egypt, nor does it exactly agree with them in shape. Though it is quadrilateral, one of the sides has a hollow space running up the centre from the base to the summit, which, instead of terminating in a pyramid like the regular obelisks, is confined to a vertical cylinder. At the bottom of the hollow space just described, a doorway is represented. The reader may form a better idea of this from Mr. Salt's beautiful drawing, or, in the absence of that, from our reduced copy of it. The obelisks of Axum were originally fifty-five in number, and four of them, it is said, were as large as that now standing; yet nothing is known of the period at which they were erected, though we can hardly doubt that they belong to a period not earlier than the Christian era. Among the antiquities of Axum is a stone which contains the inscription of one of their ancient kings, characters, and has been copied by Mr. Salt; that on the opposite side, of which Mr. Salt could only copy a small part, he believes to be in Ethiopian characters, and also contains the possibility, that it was cut at the same time with the Greek inscription.

Besides the obelisk, there is a Christian church at Axum, to which there is an ascent by two fine flights of steps. The church itself, which is not two centuries old, is 111 feet long, 51 broad, and 45 high, with a flat roof, and no great beauty in its architecture. Another remnant of former times, near the church at Axum, is a square enclosure, with a pillar at each corner; within it are a seat and a footstool; the whole is of granite. On this seat, tradition says, the saviour Christ was when he was translated. From this stone, which he calls a freestone, an inscription of three Greek words, which, he says, 'though much defaced, may safely be restored.' As restored by him, they signify 'King Ptolemy Euergetes,' but Mr. Salt, and his fellow travellers Mr. Skey and Mr. Stukeley, assure me that there is an inscription at all on the footstool, while there is an Ethiopian inscription on another granite stone, resembling a footstool, thirty yards from the genuine footstool. Mr. Bruce's account of this place is probably true; but, if it is certain that he did not see the large Greek inscription, though the Jesuits had observed it long before him. (See Telles, *History of Ethiopia*, i. cap. 22.)

The language of the Axumites is first noticed by the author of the *Periplus* (see Great Survey) of the Red Sea and part of the east coast of Africa, &c. This document, which is still extant, was written probably about the close of the second century; but how long this Axumite empire had existed before, we are not able to say. The Greek inscription, which was copied by Mr. Salt, shows us that the monarch of Axum had an extensive empire; in Axum and its co-extensive at least with the present province of Egypt, and his possessions extended even into Arabia. Through the port of Adul on the Red Sea, Axum maintained a commercial intercourse with Arabia and India; and it was probably for some advantage to be secured to Greek merchants from Egypt in the Indian trade, that the Byzantine Caesars paid a yearly tax to the Axumite king until the commencement of the Arab conquest. Axum was the great emporium for ivory, which was exported through Adul. (Periplus; Hudson's Minor Greek Geographers.) It may be mentioned as a curious fact, that when the Emperor Aurelian took Palmyra in the Syrian desert, he found among the assembling of nations within its walls some Axumites, probably traders. The Byzantine writers, such as Procopius, Cedrenus, &c., call both the Axumites and the Hermenites (Himyares) of Arabia Indicae, while they carefully restrict the term Ethiopians to the Axumites. It appears, then, that for a certain period, at least for several centuries after the Christian era, the vague term Ethiopians was used in a limited sense, and applied to a people who inhabited one of the large districts now forming a part of the modern Abyssinia. We may conjecture, but we cannot in the absence of all evidence affirm, how the Greek language got to Axum, and how it came to be adopted by the native kings. The most probable hypothesis would be, that as the Greeks gradually got a footing in Egypt, and finally, after the time of Alexander, became masters of the country, so these restless people spread even into Ethiopia, where some had adventurers, partly by conquest, partly perhaps in other ways too, because the ruling caste, and formed a dynasty of half Greek sovereigns, whose resemblance to their own nation would gradually fade away, on account of their constant
easy to barbarous tribes, and their distance from the centres of Greek civilization. Axum was probably the first part of Abyssinia into which Christianity was introduced. In the Apology of Athanasius, which is addressed to the Emperor Theodosius 2. N. 381., there is given a copy of a letter sent by Constantius to Axum (’Αλεποψ) on the subject of Frumentius. This letter is addressed jointly to two persons, named Azenas and Semasnas, without any indication of one being superior to the other. Both, however, are named as the sovereigns of Axum. From this letter it appears that Frumentius had been appointed Bishop of Axum by Athanasius. The emperor intimated that the imperial decree is as valid in the Alexandrians as in the Roman church, and he accordingly ordered them, under a threat, to elect Frumentius as bishop, and that his appointment and qualifications might be examined by Gregory, who then held the see of Alexandria, in place of Athanasius who had been ejected, and by the bishops of Egypt. [See ATHANASIUS.] In conclusion, the emperor addresses the two Axumite princes by the title of 'most honoured brethren' (ἀξιοὺς τιμίας). See the works of St. Athanasius, by the Beneficences of St. Maur, vol. i. pt. 1. p. 315.

It is a singular coincidence that the Greek inscription copied by Mr. Salt records the name and exploits of Asenas, King of the Axumites, Homerites, &c.; and that Semasnas is also mentioned in the same inscription as one of his brothers, who, with Adaphas, took up residence with the modern Beja. Adaphas is not mentioned in the letter of Constantius. The inscription commemorates the success of the expedition and the clemency of the victorious sovereign, who styles himself the son of the sun. It is a remarkable fact that the inscription belongs to the same epoch as the letter of Constantius. Athanasius was driven from his see about a.c. 354, and the letter of Constantius must have been written soon after. It is a reasonable inference from this letter that Constantius considered the Axumite princes as Christians; but from the inscription, which appears to refer to the same personages, it is clear that when this monument was erected, the sovereign was a heathen; and yet the Axumite monarchs began to maintain a place at least as early as a.d. 330. The difficulty may be solved by supposing that the monument was raised before the mission of Frumentius; or perhaps better by supposing that the heathen forms continued to be used on public occasions even after the introduction of Christianity.

Another sovereign of Axum, called Elesban, is mentioned by Cosmas, a Greek writer of the sixth century of the Christian era. A comparison of the inscription of Adul, as reported by Cosmas [see ADUUL], shows that the inscription ascribed to Adul is anterior to that of Elesban, and that the inscription of Axum is posterior to that of Adul. In both inscriptions the king calls himself the son of Ares, who seems to have been the guardian god of the family. In the Adul inscription the king calls the sovereign of those nations, of which the king mentioned in the Axum inscription simply calls himself sovereign. It appears from these inscriptions that the Axumite dominion extended into Arabia, and comprised the Humyradas, called by the Greeks, Homerites. [See ARABIA. p. 215, &c.] Dr. Alexander Murray, in one of his letters to Salt (see Hall's Life of Salt), supposes the monument of Adul to be nearly of the age or century of Cosmas himself; and he founds this opinion on the identity of the names of the two kings, and observes, 'That the Axumite king Elesban, the contemporary of Cosmas, and El Atabe or Caleb. But the premises, even if correct, lead to no such conclusion. As far as the internal evidence of the two inscriptions goes, that of Adul is undoubtedly the older, but whether it is the same as the list of Axumite kings is another question.

Mr. Bruce brought from Abyssinia a copy of the Abyssinian Chronicles, or the Book of Axum; but this work has not yet appeared in English. It is intended to be 'An Arab extract by Mr. Bruce. A YACUCHO, the name of a plain in Peru, in South America, in the district of Guambana. It is bounded on the east by the abrupt ridge of Condoncarqui, or Con-
AYL

Spantius under Valdes drove them back, and followed across the ravine. The division of La Mar rallied, and, supported by the mounted grenadiers, also crossed the ravine. Colonel Plaza, of the independent army, did the same with his legion on the left, and Lieutenant-Colonel Moran at the head of the battalion, Barioz, on the right. The sea-room and the support of the valley, made their repeated charges so successful, that Valdes was defeated, and his four field-pieces taken. The Spaniards now began to rally the remains of their army on the heights, and the divisions of La Mar gave the summons at about 11 o'clock. Sunset the royalists sued for terms. Cantonero rode down to the tent of Buero, and a capitulation was agreed upon, by which the vicecy, 13 general officers, 16 colonels, 444 officers, and 3,000 men because prisoners of war. The white cap was surrender to Barioz in all, with the exception of Callao, was also surrendered to the independent. The royalists had 1,400 men killed and 700 wounded. The loss on the part of the Americans was 370 killed and 689 wounded.

(See Mem. of General Miller, vol. ii. ch. xxiv. xxv.; Annual Register; American Annual Register.)

AYLON, a city in Spain, in the kingdom of Seville, 37° 12' N. lat. 7° 19' W. long. It is situated on the slope of a range of hills, where the river Guadalquivir enters the ocean. It is a fortified town opposite to Castromarín, in Portugal, the capital of the district which bears its name, and comprises thirty villages. There are in Ayamonte two parishes, five hermitages, two convents of monks, one of nuns, and a hospital. The population of the city is 6,337, of which number are fishermen, sailors, and ship-carpenters, and the remaining part are employed in agriculture and commerce. The women make fishing-nets and lace, which latter article is much esteemed in Southern Europe. There are some soap manufactories, a few brick and lime-kilns, and some of common earthenware. In the neighbourhood of Ayamonte there are forests of fir trees, which are employed in the building of ships. The town is fortified. It produces great crops of wheat and of corn. The castle is of very old construction. The place was conquered by the Moorish king of Granada in 1496. The inhabitants of Antequera wrested it from the hands of the Infidels two years after (1498). See Antequera. (Milano's Dictionario, vol. i. and ii.; and Manana, lib. ix. e. 16.)

AYEN AKBERY, properly AYNI-AKBARI, is the title of a geographical and statistical account of the Mogul empire in India during the reign of the emperor Jehfeildin Mohammed Akbar (see Akyar), written by his vizir Abul Fazl. [See Abul Fazl.] It constitutes properly the third or concluding part of the Akbarnamah of the same author: the first volume of this work consists of a narrative of the life of Akbar, and the second is a description of the empire, and the occurrences of his reign, from his accession to the throne down to the 47th year. It has been translated into English, and undertaken by Mr. Francis Gladwin, and begun to be published at Calcutta, in 1783. It has twere been reprinted in England. As an original, and we may say an official account of the internal organization of the Mogul empire at the time of its greatest prosperity, the Ayni Akbari is highly interesting. It is divided into four parts: the first three are chiefly political and legislative, containing the regulations of the different households, military, and revenue offices, and showing the manner in which these several departments are managed; the fourth part is chiefly statistical, and contains a table of the province of Bengal, with a description of the several provinces at that time comprehended under the Mogul government, and a detailed account of the ancient institutions, religion, and literature of the Hindus, which is very comprehensive, and in many parts surprisingly accurate. This work is, however, a superficial survey of the countries, many of which are very instructive, and it abounds in notices of general interest and of great utility for the history and geography of Asia. Among them we shall but mention the comparative account of the principal races of Asia, as well as the races of the different nations of Asia, and a long list of geographical names, arranged according to the Oriental plan of the seven climates, and stating the longitude (from the Happy Islands) and latitude of several places.

AYLESBURY, a considerable town in Buckinghamshire, on the road from London to Warwick and Birmingham, thirty-eight miles from London, through Wathor, Berks, Reading, and Thame, about two miles north-west of the town. It consists of several streets and lanes irregularly built. The elevation of the town above the general level of the Great Plain is about 100 feet higher and is frequently felt by the inhabitants; but the houses are now well supplied by means of machinery in the goal, which is worked by the prisoners. The town is also well paved, and lighted with gas.

Although Aylesbury does not give name to the county, it seems to have the fairest title to be considered as the county town. The quarter-sessions are always held here. Lord Chief Justice Baldwin caused the removal of the assizes to this town from the reign of Henry VIII. but in 1750 Lord Cobbold procured an act of parliament for holding the summer assizes at Buckingham; the Lent assizes are however still held at Aylesbury, where also is the county jail. It is the place where the county members are nominated at, and the elections are held.

The county hall is a handsome brick building, erected in the earlier part of the last century. The old town-hall and market-house, built at the expense of Lord Chief Justice Baldwin already mentioned, have been lately replaced by a new building on the site of the present one. The town has a church in South Street, which is of ancient building, and is the parish church, from its being the nearest to the town, and is an every direction. The church contains little that is remarkable. There is a monument of Sir Henry Lee's, who died in 1841, and a marble effigy dug up some years since in the ruins of the church of the Grey Friars, supposed to be the remains of Sir William Lea, who died in 1460. The pulpit is ornamented with some curious carved work. The churchyard is very large, and has several walls planted with double rows of trees. There are many almshouses for Independents (formerly for Presbyterians). Baptist, Quaker, and Methodist Meeting Houses. There is a school, the origin of which does not appear to be clearly known. It was endowed with some bequests by Sir Henry Lee, of Ditcheley, in Oxfordshire, before the year 1667: but the principal endowment is consequent upon the sale of 5,000l. left by Mr. Henry Phillips of London, in 1714, and invested in the purchase of land, which, with the other resources of the school, produces an income of nearly 54s. The school buildings are adjacent to the churchyard, and are ceded to the schoolmaster and the other for the writing or English master, with a schoolroom connecting the two. In this school-room 100 boys are taught by the English master, while twenty more are instructed by the head master in the different branches of a classical and a military education, and are supported by the income and about the town, or distributed in money and clothing to the poor. There are five large cottages near the church gate, occupied as almshouses, bequeathed by a person of the name of Lee, which income is employed in repairing the houses and about the town, or distributed in money and clothing to the poor. There are also a considerable property left by William Harding of Walcot, in 1719, for the purpose of apprenticing poor children. And there is a school to be opened for the education of boys and girls on an average bound year. There are many minor charities. (Reg. of Commissaries of Charities, January, 1811.)

The only manufacture carried on in the town is of lace. There is a market on the first and last day of every month, and in the year, chiefly for the sale of cattle. A market once held on Wednesday has been deserted.

Aylesbury was made a corporate town and a parliamentary borough by charter of Queen Mary, in 1534. The corporation consists of a bailiff, two town, and thirty-four burgesses; but the powers of the charter expired (see so as
There was a house of Grey Friars at the south end of the town, founded by James Earl of Ormonde in 1387, but it was very poor; the revenue, at the time of the suppression of religious houses under Henry VIII, being valued only at £1 2s. 3d. per annum. It became the seat of Sir J. Bald- win, Lord Chief Justice of the Common Pleas, to whom Henry VIII. granted it in 1547. His descendants were the Biddington family; but it was so much damaged in the great civil war, that it was never afterwards inhabited by them.

The vale of Aylesbury extends on the S.W. to Thame.

The other boundaries, except on the south side, are rather difficult to ascertain. Leeland makes the vale extend 'otherways to Buckingham, to Stony Stratford, to Newport Pagnell, and amongst from Aylesbury by the Roads of Child- well, of the Great and of the Lea.' The Hunsdon Hills bound the vale on the south side, and run in a direction N.E. and W.S.W., near the town. They are formed of chalk. The vale is better calculated for grazing land than almost any in the kingdom; but when the agricultural report of this county was drawn up in 1784, the method of farming seems to have been little creditable to the skill and industry of the agriculturists. Grazing and dairy farming seem to be at present the chief objects of attention, and to be followed at no great distance.

AYLESBURY.

This town, as may be seen on the map, is situated on the right bank of the Medway, a little to the left of the road from London to Maidstone, thirty-two miles and a half from the former, and about three miles and a half from the latter. The town consists of a high street, and the front part of the town is one large building, with a square tower at the west end, situated on an eminence at the back of the village. It contains a costly monument of Sir John Bankes, bart., who died 1699.

The ground rises so abruptly, that the churchyard is higher than the town, and is surrounded on three sides by the chimes of the church. The town is within a stone bridge of six arches over the Medway; and in Aylesbury-street is a building erected for an almshouse, and endowed by the will of John Sedley, in 1695, for a warden and six poor persons, but not yet erected. At one supposition the property has been diverted to private use, though now, by means of the commissioners for inquiring concerning charities, it is likely to be recovered, and the charity re-established. Aylesbury has one fair in the year, on the 29th of June. The parish extends on both sides of the river: it contains 3330 acres, and had in 1831 a population of 1301 persons. It includes the hamlet of Milbale, on the left bank of the Medway, and in the civil jurisdiction of the Corporation of Maidstone.

The living is a vicarage in the gift of the Dean and Chapter of Rochester. It is in the diocese and archdeaconry of Rochester. The church was granted by Henry I. to the bishops of Rochester. One of these gave it to the priory of that city; but by one of his successors it was, towards the close of the twelfth century, transferred to the newly founded hospital at Stroud. The monks of Rochester priory appealed to the Pope; and after many years contest, and many decrees and confirmations in favour of each party, it remained with the hospital. The master of that institution appointing a vicar to celebrate divine service. Just before the dissolution of the religious houses, the master and brethren of the hospital resigned their hospital and all its possessions to the Prior and convent of Rochester; and the vicarage, by the direction of the King, was granted by him to the king by letters patent, into the hands of the king, he granted the advowson of the vicarage to the Dean and Chapter of Rochester, in which it is still vested.

An endowment of 20s. per annum for a charity-school was bequeathed by a Dr. Charles Milner, of Preston Hall, in this parish, who died in 1771.

Close to the Medway, a small distance west of the village, was a Carmelite friary, founded a.d. 1246, by, or under the patronage of L. de Grey, the 4th. Of monasteries, the site, precinct, and lands of this were granted to Sir Thomas Wyatt, and on the rebellion of his son in the reign of Queen Mary were forfeited to the crown. Queen Elizabeth granted them to the Sedley family, and since that period have been in possession of the family of Aylesford. In the bosom of this family, and in the do- mestic offices, many portions of the friary buildings are still
visible. We take the following description from Hasted's History of Kent.

'The greatest part of the ancient priory remains very fair, and by far the least demolished of any conventual edifice in these parts. The great gate from the road is yet to be seen, and has a large square arch, in which are several all the doors to the cells. The side where the high buttresses are left, on the left hand within the gate, was the great hall or refectory, now divided into rooms. The kitchen was likewise on the east side of the square, as appears by the large fire-places in one part of it. The chapel was that part of the burning which stands east and west; the north side of it fronts the garden as the south does the river; the east window of it was where now is the dining-room or gallery-door with the iron balcony facing the town. The principal part of this priory, as the hall, chapel, cloisters, &c., was converted into stately apartments by Sir John Banks (who resided here in the latter part of the seventeenth century), and the cloisters were by him inclosed and paved with white and black marble. There is a fair high stone wall which fronts the road and incloses the garden, the same as when in its ancient state. (Vol. iv. 2d ed. 1794.)

There are in the parish the ruins of the ancient free chapel of Longsole, now used as a barn, and called, from its lonely situation, 'The Hermitage.' It is about two miles from the town, on the other side of the Medway. On the window-frame of a large ancient barn (belonging to Preston Hall in the parish), built of stone, as well as on an out-house near it, are the initials of a chaste lady, with the date 1773, and letters TC with the date 1102 in Arabic figures. The use of these at so early a period has given rise to much discussion among antiquaries: the inscription is probably of a much later date, and refers not to the date of the erection of the building.

But the most remarkable monument of antiquity is that called Kit's Coty House, situated on the brow of a hill, about a mile N.E. of the village. It is composed of four large stones, the other three are of the same kind, and according to Grose, while Hasted vaguely describes them as being 'of the pebble kind.' The following description of this monument is given by Bow in his Chronicle, and quoted by Mr. Colebrooke, to which the following note is added: 'I have myself, in company with divers worshipful and learned gentlemen, beheld it in anno 1590, and is of four flat stones, one of them standing upright in the middle of two others, inclining the edge sides of the first, and the fourth laid flat above the other three, and is of such height that men may stand on either side the middle stone in time of storm or tempest safe from wind and rain, being defended with the breadth of the stones, having one at their backs, one on either side, and the fourth over their heads; and about a foot from the top, or from another upright stone, much part thereof in the ground, as fallen down where the same had been affixed.' This last stone, says Mr. Colebrooke, 'lies about seventy paces to the N.W. in the same direction and thickness is half buried; but from its present position, it seems as if it had once stood upright.' It has since been buried 'for the convenience of agriculture.' It may be observed, that the openings formed by the stones of Kit's Coty House are not of equal dimensions, but the larger one fronts between E. and N.E., whence some writers (as Grose) describe them as forming three sides of a square. The upper stone is not quite parallel to the horizon, but inclines towards the W. or S.W. opening, in an angle of about nine degrees. The dimensions of the stones are as follows. 

**Upright Stone on the N. or N.W. side, eight feet high, eight feet broad, two feet thick:** estimated weight, eight and a half tons.

**Upright Stone on the S. or S.E. side, eight feet high, seven and a half feet broad, two feet thick:** estimated weight, eight tons.

**Upper stone between these, very irregular, medium dimensions, five feet high, five feet broad, fourteen inches thick, about two feet square:** two feet thick. 

**Upper stone, very irregular, eleven feet long, eight feet broad, two feet thick:** estimated weight, about ten tons, seven cews.

None of the stones have any marks of workmanship.

At the distance of two fields southward from Kit's Coty House, in the bottom nearer to Aylesford, is a heap of the like kind of stones, some of which are partly upright, and others lying in a circle round them, in all to the number of nine or ten. Those that are partly upright, with a large one lying across them, appear to have once formed a kind of structure like that of Kit's Coty House, and to have had the same aspect: the whole heap is now intergrown with elms and other coarse shrubs. This monument of antiquity is supposed to have been demolished by some persons digging a trench beneath it, in hope of finding treasure. (Hasted's History of Kent.) Still nearer to Aylesford is a remarkable stone, called, from its shape, the Coffin.

Respecting the origin of Kit's Coty House, as well as of its singular name, different opinions are entertained. It appears that about A.D. 455, soon after the arrival of the Saxons in England, under Hengest and Horsa, when hostilities broke out between them and the Britons, a battle took place at Aylesford, one of the three which are thought to have compelled the Saxons to leave the island for a time (Turner's History of the Anglo-Saxons, book iv. c. 1.). In this battle, Catigern, brother of Gwentmeur, or Wortmer, the British commander, fell, as also Horsa, one of the Saxon chieftains. It is commonly supposed that this is the monument of Catigern; and the name, Kit's Coty House, is considered by Bow, Camden, Grose, and others, to be derived from the name of that person. Grose has the passage: 'Perhaps the appellation of Kit's Coty House (so he writes it) may be thus illustrated: Cat or Cuss is possibly the familiar abbreviation of Catigern; and in Cornwall, where there are many of these monuments, those stones, whose length and breadth greatly exceed these three thickness, are called cats.' Kit's Coty House may then express Catigern's House built with costs, and might have been a taunting reflection on the memory of that champion for the British liberty, used by the Saxons when in possession of the county of Kent.

Mr. Colebrooke inclines to think that it is the sepulchral monument of Horsa, which is commonly supposed to be at Horsted, a manor a little to the left of the road from Rochester to Maidstone, about two miles from the former, where are many large stones scattered about the fields, some standing upright, others thrown down. (See Hasted's Hist. of Kent.) The name of Kit's Coty House Mr. Colebrooke supposes to be derived from some old shepherd, who used to keep sheep on this plain, and to shelter himself from the weather in this monument. (Arched. vol. iv. p. 110, et seq.) considers Mr. Colebrooke's hypothesis very doubtful, and regards this and other cromlechs as places of devotion rather than sepulchral monuments. Bede (quoted by Mr. Colebrooke) observes that the place where Horsa was buried retained his name, but the words are 'hastopen in orientalibus (ante partibus monum-mentum habuit suo nomine imaginis). Now we suppose no one will pretend to say that the name of Horsa is incorpo-rated in the present tale of this monument. The name is variously written: Keith Coty House, by Camden; Keops House, by Larder (Aemulation of Kent, ed. of 1688); Cits Cotthow, by Bow; and differently by other writers.
Besides the above engagement, between the Britons and Scyths, Aylesford deserves notice as the place to which Edwina, a daughter of King Ethelred, was transferred by her father, to secure her from the attacks of the Danes, whom he had defeated at Osford. Dr. Plot was inclined to fix the Roman station Vagniacae at Aylesford; but he does not appear to have any followers in this opinion.

The town appears to have been variously written. The Saxon Chronicle calls it Ayleisford. According to Nennius (a British historian of the early part of the seventh century) the Saxons called it Epsiford, and the Britons Bæthesnegul, or Saienensis-Hoxall, from the overthrow of the Roman power. Under that name it is still known, and, ab. 900, calls it Eslethreph: In Domesday Book it is Ellesford.

The manor of Aylesford was, at the time of the Domesday Survey, of royal descent. It was subsequently held by the Grevys of Codnor, the Wyatts, and others.

In one place in the parish are several springs, which change the stones in them, as well as pieces of wood, to a carmine hue, which never lasts, but when they are taken out and have become dry. The water flows from a deep chalky loess soil, is very chilly, and has a rough taste; but there are no chalybeate qualities belonging to it. (Hasted's History of Kent.)

See also AYLESHAM (written in Domesday Book 'Elesham'), a market-town in the hundred of South Erpingham, in the county of Norfolk, about 11 miles N. by W. of Norwich, and 129 N.N.E. from London through Norwich, or 118 through East Dereham. It is on the right side of the road from Norwich to Dereham, about a mile from a turnpike road, called the 'Alesham Wells and Aylesham Lines,' and the fine cloth of Alesham. According to the Latin annals of Henry VIII. the linen manufacture had in a great degree given way to the woolen, and about the time of James I. it was chiefly inhabited by knitters; but this branch of industry has since disappeared. The church is endowed with the revenues of the manor, and is now possessed by the patronage of the Crown.

Aylsham was, in the time of Edward II. and III., the chief place in Norfolk for the linen manufacture; and in old records the 'Alesham wells and Alesham lines,' and the 'fine cloth of Alesham' are mentioned. The addition of 'of the church of St. Mary,' to the name, from the time of Henry VIII., was the linen manufacture had in a great degree given way to the woolen, and about the time of James I. it was chiefly inhabited by knitters; but this branch of industry has since disappeared. The church is endowed with the revenues of the manor, and is now possessed by the patronage of the Crown.

The church, dedicated to St. Michael the Archangel, was built by John of Gaunt, duke of Lancaster, fourth son of Edward III., in the fourteenth century, and is in the decorated English style. It has a nave and chancel, and a tower with a spire, and is said to be the finest in the county. The church was originally called St. Peter's Church, and the chancel the Church of the Virgin Mary. There was a square tower, with a spire on the top. The church contains several monuments, and the presentation is in the hands of the dean and chapter of Canterbury, to whom the vicarage rectorcy was granted. There are two dissenting places of worship.

There is a national school at Aylsham. It was originally a free-school, endowed by Robert Jannys, who was mayor of London, and living near the manor-house (with a house above an acre of land, and 1/10th paid by the corporation of Norwich), and it is chiefly supported by voluntary contributions. The school is well instructed.

The town and Aylsham is the most agreeable in Norfolk, and when Blomfield wrote his history (towards the middle of the last century) it was much frequented in the summer season on account of a spa or mineral spring, about three miles to the north-west of Aylsham. Aynsley and Aylsham furlong is a street extending from the town to the river Ayr, near its mouth, and is seven miles S.W. of Edinburgh, and 34 S.N.W. of Glasgow. The name Ayr is supposed to be of Celtic origin, and to have been first given to the river, from which it has been transferred to the town; the meaning is thin, or shallow.

The principle street of Ayr, called High Street, is a wide and fine road, with two rows of well-built houses. The town is lighted by gas, and was entirely repaved some years since, so that it is now one of the cleanest and best-paved burghs in Scotland.

At the end of the street is the old bridge over the Ayr, connecting the town with Ayrshire, the Ayr, which, though a distinct parish, may be considered as a suburb; and, with the adjacent villages of Wallace Town and Content, is included in the boundaries of the present parliamentary borough of Ayr. A little below this old bridge is a new bridge, a magnificent structure, built in 1882, which connects Sandgate-street in Ayr with Main-street in New Town.

At the junction of High-street and Sandgate-street stand the town public buildings, consisting of an elegant range of assembly-rooms, and a public reading-room, which is supplied with periodicals and newspapers. There is a spire in the centre of the building 212 feet high, which is much admired. These buildings were erected by the corporation at the cost of 10,000£. Near the south end of Sandgate-street is Wellington-square, the name of which indicates its modern erection, lying at its western extremity the county buildings, containing court and record rooms, and other public offices. Behind these is the county jail for debtors and criminals erected on the most approved principles, and in an airy situation near the sea. Wellington-square is of considerable size. From the houses on the north side to those on the south, it is about 300 feet wide, and the length from the road towards Carrick, into which it is divided, is about 300 feet. The axis of the street, about 600 feet. South of it another square, of much smaller dimensions, has been commenced, as well as a number of new streets in the same neighbourhood. In High-street is a new building called Wallace Tower, erected in the place of an old one on the site of the payment house of Henry VIII. It is said to have been the occasional residence of the Scottish hero. In front of the building is a statue of Wallace, executed by Thom, the sculptor of Tam O'Shanter and Souter Johnnie. Ayr has a number of public institutions for persons in easy circumstances, professional men, and tradesmen and others who are employed in the town, and from the residence of several of the gentry. There are two banking establishments, besides branches of the Bank of Scotland and the Union Bank of Glasgow, and the banks are in the seat of the coal trade. The different character of the population of the two places may be estimated by this, that though the parish of New Town has more than half as many inhabitants as Ayr, there are only 40 female servants, while in Ayr there were 100. A small number of bankers, professional and other educated men; New Town only 31.

The harbour is formed by the mouth of the river Ayr; and from each side of the mouth a pier runs out into the sea as far as the water will allow, and the north pier (that of Ayr) is about 1250 feet, and the length of the north pier of the harbor (that of New Town) about 1150 feet*. There is a bar at the mouth of the harbour, and the depth of the water at spring tides is fourteen feet; so that vessels exceeding 200 tons registered burden can be brought over the bar in safety. There are two light-houses to guide vessels into the harbour. The dues exceed 1000£ annually.

There are two parish kirkis in Ayr: the old one stands at the back of the High-street, on the east side of the town; and the new one at the head of Cathcart-street. The parish kirk in New Town stands in Main-street, not far from the bridge. Besides these places of worship of the establishment, there are Episcopal and Catholic churches, and there are also a number of dissenters: viz., Burgesses, Anti-Burgesses, Relief, Camerons, Independents, Methodists, and Moravians.

Close to the new parochial kirk of Ayr is the academy, which, from the liberality of the trustees, is open to the children of the town for the education of their children. The number of scholars averages from 500 to 600 annually: the building is very handsome. This has benefited the town by causing an increase of the buildings, and an improvement of the town.

* The measurements generally made on the plan contained in the boundary reports.
coast to Carrick, are a number of villas, chiefly inhabited by persons who are in business in Ayr.

To the west of the town, between it and the shore, stood the fort built by Oliver Cromwell, but demolished at the restoration of the Stuarts. It was defended by six bastions, and two or three places appear to have been intended for the accommodation of men of war. In the year 1660, a tract of land for 1000 acres, was included in the ancient parochial kirk of St. John the Baptist; in which the Scottish Parliament met to confer the title of Robert Bruce to the throne of Scotland. This kirk is now a ruin, and a new one, viz., that which is mentioned above as "the Old Kirk," built in 1634. The tower of the kirk with the fort still remains, and there are some relics of the fort itself. Ayr is one of the most ancient towns in Scotland, and it stands on the high and historic coast of the southern circuit (corresponding to the English suasive courts) is held. Sheriffs, justice of peace, and burgs courts, and also regularly held.

The trade of Ayr, in former times, consisted in a great degree in the importation of wine from France, and the population was then considerable. There was a tradition, that nearly 250 years ago 2000 persons died of the plague. Subsequently the town declined; and in 1745 the population (of the parish, as it seems) was reckoned at no more than 3000. In 1811, the burgh had 13000 inhabitants; and as in 1755 it was returned near 3000. At present the trade of Ayr consists chiefly in the export of coal to Ireland, and in the import of timber and deals from British America, and Scilly and other islands in the Baltic. Building and fishing are carried on to some extent, the sandbanks of the coast abounding in all sorts of white fish. A considerable woollen manufacture has been lately commenced, which bids fair to be attended with beneficial results. The rise of New Town into importance is more recent than that of Ayr, and has been owing to its collieries, which are now flourishing. The population of the burgh and parish of Ayr in 1831, was 7608; that of New Town, 4620; and Wallace Town and Content, 4277;—together, 16,000. The two were weekly market, the one on Tuesday and Friday, and four fairs in the year.

Ayr is said to have been a place of note at the Norman Conquest, and was erected into a burgh by William the Lion, king of Scotland, in the year 1292. The corporation consists of a provost, two bailies, a dean of guild, a treasurer, and twelve councillors; and has an annual revenue of £2400, and a debt approaching to near £20,000. The jurisdiction of the magistrates extends over the whole parish. It is a constituent burgh, returning corporately with Irvine, Campbeltown, Inverary, and Oban, the last three in Argyllshire, one member to parliament.

New Town is a burgh of barony; the burgesses or townsmen are limited in number to forty-eight, and each possess a lot or freedom in consuming ten acres of arable land, besides the right of pasturage on the common of 130 acres, which right is enjoyed only by the burgesses. The common revenue of the burgh is small. The community meet every year to elect their magistrates and officers, when two bailies, a treasurer, and six councillors are chosen.

The boundaries of the parliamentary borough of Ayr, as fixed in 1792, comprehend the three parishes of New Ayr Town, and St. Quivox, and contain a population of 14,017.

The coast to the north and south of Ayr is flat; on the east the country rises gradually. The soil of Ayr parish seems to be better than that of New Town. They are both in the abbey of Ayr, and in the synod of Ayr and Glasgow. The New Town was erected from the land of from about 500 acres of arable land, close to the north of the town. In the parish of Ayr (at least, in that of Alloway which has been long annexed to it), Robert Burns was born, in 1759. The town is situated by the road-side, about two miles from Ayr, and is protected by a strong wall, the towers of which are conspicuous from the sea, and some relics connected with him. The scene of the sea is delightful in the extreme, which causes it to be a place much resorted to by strangers. Burnet.

Scotland, or Erigone, one of the lights of the dark ages, and the Chevalier Ramsay, are claimed as natives of the parish of Ayr.

There was formerly a monastery of Dominicans, or black friars (the first they had in Scotland), and one of the most prosperous. A statue of the Virgin Mary was said to have worked many miracles without tears.

(Weber's Topographical Dict. of Scotland; Sinclair's Statistical Account; Playfair's Description of Scotland.)

AYRSHIRE, a county in the S.W. part of Scotland, deriving its name from the town just described. The Firth of Clyde, an arm of the sea which washes it on the west, forms a bay, at the bottom of which is the town of Ayr. The town divides into nearly equal parts the portion of coast belonging to the county, being distant, in a straight line, about sixty-six miles from one another, and about thirty-five miles from the southern. The distance of the two extremities from another in a direct line is about sixty miles. Such a line would be in a direction nearly N. by E. and S. by W.

The inland boundary, leaving the northern point of the coast just mentioned, runs in an irregular line towards the S.E., and separates Ayrshire from Renfrewshire and Lanarkshire; after it reaches the most eastern point (which is about forty-four miles from the northern extremity of the county), and about twenty-six or twenty-seven miles E. by N. of the town of Ayr), it turns to the S.E., and with many windings reaches the southern point of the coast, which is distant from the most eastern point of the shore about sixty-six miles in a straight line. This last part of the boundary divides this shore from those of Dumfries, Kircudbright and Wigtown.

The southern and eastern parts, with a small portion of the northern part, are the most hilly; and some of the eminences are of considerable height. Along the shores of the Frith are narrow plains, abounding with gravel; the inland country rises into hills, which incline, as within an amphitheatre, the best part of the county. The principal hills are as follows:

Knockdolian, a conical mountain near the coast in the southern part of the county.

Carntyble, in the eastern part of the county.

Birkside-end, on the parish of Carrick, near the river Ayr.

Carleton Hill near Knockdolian.

Knicknaw.

Ben-erard, in the southern part of the county.

Misty Law, on the border of Renfrew and Ayr.

Ailsa Craig, a rock off the coast.

Brown Carrick Hill, a little way south of the town of Ayr.

Ayrshire is a natural basin. Many streams rise near the inland boundary, and flow through the county into the sea, but the shortness of their course prevents them from becoming of much importance in a commercial point of view. The Irvine, rising in the north, and pursuing a course parallel to the south, unites with the Irvine, which comes from the east; or rather, both these rivers fall into Irvine barracks. The Irvine, which is the larger of the two, is about twenty miles long. The Ayr crosses the county at about five miles from east to west, and falls into the sea near the town of Ayr. It has a course of from thirty to thirty-five miles. The Lugar is its principal tributary. The Doon rises from several small streams on the S.E. border of the county, and passing through Loch Doon, flows N.W. through the parish of Minchinton, and Prestwick, and forms a separate stream in 1779.

In the parish of Ayr (at least, in that of Alloway which has been long annexed to it), Robert Burns was born, in 1759. The town is situated by the road-side, about two miles from Ayr, and is protected by a strong wall, the towers of which are conspicuous from the sea, and some relics connected with him. The scene of the sea is delightful in the extreme, which causes it to be a place much resorted to by strangers.
The mineral riches of Ayrshire are considerable. Coal is abundant, especially in the middle and northern parts of the county, considered as the most important coal-field in Scotland. Railways and railroads have been formed to carry the coal trade. The coal is of different varieties, among which is the black coal, found in the central part of the county; and another is the bituminous coal, found near Saltcoats. The coal-field near Saltcoats is divided into three parts by two dikes of natural walls of whinstone. The county affords abundance of limestone. Freestone is quarried in great quantity; and there is some whinstone quarried near Millport. Millstone is also quarried at Kilbride, near the northern part of the county, and is in great request for their hardness and durability. They are said to be exported even to the West Indies and to America. Near Auchinleck is a quarry of whinstone used for building purposes, on account of its power in resisting the action of fire. The whinstone known by the name of Waters-of-Ayr stone is found near the banks of the river Ayr. Marl is also procured in many places.

Limestone is procured at Muirkirk, near the eastern extremity of the county, extensive iron works are carried on. Lead, plumbago or black lead, antimony, and copper (of which the quantity is small) may be considered as nearly completing the list of all the minerals of Ayrshire. (Playfair’s ‘Geographical Description of Scotland’; ‘ Beauties of Scotland’)

There are several mineral springs. But none of them of such repute as to attract many visitors.

The soil of this county is thus distributed by Chalmers in his ‘Caledonia’:

<table>
<thead>
<tr>
<th>Soil</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay soil</td>
<td>861,960</td>
</tr>
<tr>
<td>Sand or light soil</td>
<td>129,110</td>
</tr>
<tr>
<td>Moss and moor land</td>
<td>283,330</td>
</tr>
<tr>
<td>Total</td>
<td>1,214,400</td>
</tr>
</tbody>
</table>

The light or sandy soil is met with along the coast, interspersed with a deep and fertile land. On the boundary the moor lands, intersected with moors, occur. Of these moors, Laird’s moss and Moss Mallock, which last is partly in Lanark and Renfrew shires, may be noticed for their extent. In the parish of Muirkirk and Renfrew Cumnock, which are in the east part of the shire, more than half the land is moss. The clay soil, which constitutes so large a portion of the land, varies in its character: it is, in some parts, strong and productive, while in others it is spongy, wet, and cold; producing much of fattening cattle, and merely sufficient for keeping alive a breeding stock. (Fullarton’s ‘General View of the Agriculture of the County of Ayr’)

Till about the middle of the last century, the agriculture of Ayrshire was in a most wretched condition. There was scarcely a practicable road; the farmers’ houses were mere hovels; the lands were overrun with weeds and rushes. The arable farms were small, for the tenants had no stock for larger occupations; the tenure was bad, and the tenant helpless by a multitude of tyrannous services to the landlord. The land, divided into the croft or infield, and outfield, was either neglected or worn out by successive crops of oats, as long as they would pay for weeding, labour, or by an ill-managed rook. For in some places, there are enormous rooks, one bearing from four to six-rowed barley, followed by a year of rest. The wretched condition of the country may be judged of by the fact, that little butchers’ meat was used by the farmers, except a portion salted at the farm; potatoes and turnips furnished the principal food of the tenants. Even in the town of Ayr, containing from 4000 to 5000 inhabitants, not more than fifty head of cattle were slaughtered annually. A succession of bad seasons, at the end of the eighteenth and beginning of the present century, obliged hundreds of families to fly for subsistence to the north of Ireland; and the poor were not unfrequently obliged to subsist by bleeding their cattle, and mixing the flesh with any animal they could procure. (Fullarton’s ‘General View’, &c.)

Wheat is not cultivated to any great extent; and though the quality of that which is raised is good, yet the cultivation of it is attended by many disadvantages. Big and rank corn is generally used in the country; but the principal grain raised is the oat, in which the county stands pre-eminent, both for quality and produce. Turnips are increasing; potatoes are universally cultivated; and the artificial grasses on all improved farms. Fats also are raised. The best rotation of crops is considered to be oats or beans, raised after ploughing up a grass field: after these, in dry soils, turnips or other green crops, such as kale, vetches, tares, or potatoes. In very strong soils, drilled beans, cabbages, and carrots may be substituted in the place of turnips. These are usually cut in the summer and used as artificial grass seeds. After the clover, wheat or oats, and, in very light lands, rye. (Fullarton’s ‘General View’, &c.)

Lime is the most common manure. On the coast, seaweed is much used, and sperges waste is in great request with some farmers. Green manure is also cultivated.

The cattles of the southern part of the county are chiefly reared for the market, and are for the most part of the Galloway breed. They are commonly black or brindled, though some are white or dun, and the best are without horns. They are very hardy, and grow fat where the large heavy breed of some other counties would be starved. Great numbers are yearly sent to England. The cattle in the northern part of the county are partly the Dunlop breed, which has been established there for a century and a half. They are remarkable for the quantity and quality of their milk. Besides these, there is a breed of brown and white mottled cattle, which is considered to have...
genus; they are covered externally by a species of operculum formed by a fold in the skin of the head.

Such is a description of the only species of this singular genus which has been hitherto distinctly characterised. M. de Beurnouil has, indeed, described an animal under the name of Siren Operculata, which, if not the Azotol of Mexico itself, appears to be at least a very closely-allied species, but we do not possess data upon the subject to warrant us in considering it, even temporarily, as a second species of the present genus. Still it is highly probable that further researches will furnish the means of distinguishing other kindred species, and travellers and observers who have the opportunity could not employ themselves more agreeably than in pursuing this curious and interesting inquiry. The Azotol is very common in the lakes of Mexico, and, according to Baron Humboldt, likewise inhabits the cold waters of mountain lakes at much greater elevation above the level of the sea than the plains surrounding that city. It is commonly found in the markets of Mexico, and esteemed a luxury by the inhabitants; it is dressed after the manner of stewed eels, and served up with a rich and stimulating sauce.

AXUM, a town of Abyssinia, in about 14° N. lat., and about 130 miles from Arkaeko, on the coast of the Red Sea. The most recent published account that we have of this place is from Mr. Salt, the late British consul in Egypt: that of Rüppell, a German traveller in Abyssinia, is not yet published. The town stands partly in and partly at the mouth of a nook formed by two hills on the N.E. end of an extensive and fertile valley, which is watered by a small stream. One of the objects that first strikes a traveller is a small plain obelisk, with the remains of many others; but the greatest curiosity is the large obelisk, sixty feet high, made of a single block of granite. It stands near a large Daron, or fig sycamore, as it is represented in Plate XX. of the folio coloured engravings that accompany Salt's work. This obelisk has no hieroglyphics upon it like those of Egypt, nor does it exactly agree with them in shape. Though it is quadrilateral, one of the sides has a hollow space running up the centre from the base to the summit, which, instead of terminating in a pyramid, like the regular obelisks, is crowned with a kind of patera. At the bottom of the hollow space just described, a doorway is represented. The reader may form a better idea of this from Mr. Salt's beautiful drawing, or, in the absence of that, from our reduced copy of it. The obelisks of Axum were originally fifty-five in number, and four of them, it is said, were as large as that now standing; yet nothing is known of the period at which they were erected, though we can hardly doubt that they belong to a period not earlier than the Christian era. Axum was the capital of Ethiopia, a name which contains two inscriptions: that on one side is in rude Greek characters, and has been copied by Mr. Salt; that on the opposite side, of which Mr. Salt could only copy a small part, bears Cyclades characters, and also conjectures, with great probability, that it was cut at the same time with the Greek inscription.

Besides the obelisk, there is a Christian church at Axum, to which there is an ascent by two fine flights of steps. The church itself, which is not two centuries old, is 111 feet long, 51 broad, and 40 high, with a flat roof, and no great beauty in its architecture. Another remnant of former times, near the church at Axum, is a square enclosure, with a pillar at each corner; within it are a seat and a footstool; the whole is covered with grass. On this is a stone which says, the antients were crowned. Bruce (vol. iv. p. 323) gives from this stone, which he calls a freestone, an inscription of three Greek words, which, he says, 'though much defaced, may safely be restored.' As restored by him, they signify: 'King Phidarny, Euergetes.' But Mr. Salt and his fellow travellers Mr. Smith and Stuart, assert that there is no inscription at all on the footstool, while there is an Ethiopian inscription on another granite stone, resembling a footstool, that belongs to the same foundation. Bruce's inscription is therefore probably not true; at least it is certain that he did not see the large Greek inscription, though the Jesus had observed it long before him. (See Talles, History of Ethiopia, i. cap. 22.)

The constitution of the Axumites is first noticed by the author of the Periplus (in Coast Survey) of the Red Sea and part of the east coast of Africa, &c. This document, which is still extant, was written probably about the close of the second century; but how long this Axumite empire had existed before, we are not able to say. The Greek inscriptions, which was copied by Mr. Salt, shows us that the monarch of Axum had an extensive empire; in Africa, it was co-extensive at least with the present province of Tigre, and his possessions extended even into Arabia. Through the port of Adula on the Red Sea, Axum maintained a commercial intercourse with Arabia and India; and it was probably for some advantage to be secured to Greek merchants from Egypt in the Indian trade, that the Byzantine Caesars paid a yearly tax to the Axumite king until the commencement of the Arab conquest. Axum was the great emporium for ivory, which was exported through Adula. (Periplus; Hudson's Minor Greek Geographers.) It may be mentioned as a curious fact, that when the Emperor Aurelian took Palmwyra in the Syrian desert, he found among the assemblage of nations within its walls some Axumites, probably traders. The Byzantine writers, such as Procopius, Cedrenus, &c., call both the Axumites and the Ha-emertes (Hyemardes) of Arabia Indicae, while they carefully restrict the term Ethiopians to the Axumites. It appears, then, that for a certain period, at least for several centuries after the Christian era, the vague term Ethiopians was used in a limited sense, and applied to a people who inhabited one of the large districts now forming part of the modern Abyssinia. We may conjecture, but we cannot in the absence of all evidence affirm, how the Greek language got to Axum, and how it came to be adopted by the native kings. The most probable hypothesis would be, that as the Greeks gradually got a footing in Egypt, and finally, after the time of Alexander, became masters of the country, as thus restless people spread even into Ethiopia, where some bold adventurers, partly by conquest, partly perhaps by other ways too, became the ruling caste, and formed a dynasty of half Greek sovereigns, whose resemblance to their own nation would gradually fade away, on account of their preas-
mesty to barbarous tribes, and their distance from the centres of 

Abyssinian civilization. 

Axum was probably the first part of Abyssinia into which 

Christianity was introduced. In the *Apology of Athanas- 

ius*, which is addressed to the Emperor Constans Nica- 

esus, *Anastasius of Axum* ("Agenitus") on the subject of 

Frumentius. This letter is addressed jointly to two persons, named Ainasas and Sasanass, without any indication of one being superior 

the other; but they are evidently addressed as the sove- 

regess or regzzarella. The emperor intimated that the imperial decree is as valid in the 

Alexandrine as in the Roman church, and he accordingly 

opened his address back Frumentius to Egypt, in 

order that his appointment and qualifications might be 

examined by Gregory, whom he then held the son of Alexandria, in 

Place of Athanasius who had been ejected, and by the other 

bishops of Egypt. [See *Athenobius*.] In conclusion, the 

emperor addresses the two Axumite princes by the title of 

"most honoured brethren" (*diplikos*). See the 

works of St. Athanasius, by the Benedictines of St. Maur, 

vol. i. pt. 1. p. 315. 

Another sovereign Axum, called Eliebshan, is men- 

tioned by Cosmas, a Greek writer of the sixth century of the 

Christian era. A comparison the inscription of 

Adule, as reported by Cosmas [see *Adule*], shows that the 

inscription of his sword in the one case, and the 

inscription of Axum is posterior to that of 

Adule. In both inscriptions the king calls himself the son of 

Ares, who seems to have been the guardian god of the 

family. In the Adule inscription the king declares he was 

the first of the kings, in the Axumite, he is 

the last to be, as far as we can judge. The 

combination in the Axum inscription simply calls him 

sovereign. It appears from these inscriptions that the 

Axumite dominion extended into Arabia, and comprised 

the Hadramaut, the Arabs, the contemporary of Cosmas, and El Atieba or 

Caleb. But the premises, even if correct, lead to no 

such conclusion. As far as the internal evidence of the 

two inscriptions goes, that of Adule is undoubtedly the older; 

but how far they are reconcilable with the list of Axumite 

kings is another question. 

Mr. Bruce brought from Abyssinia a copy of the *Aby- 

ssian Chronicle, or the Book of Axum*; but this work has 

not yet been translated. It is worthy of remark that the 

"Axumite" stands before El. The name is in fact of several 

sovereigns in the ancient list, though it is long since 

obsolete in the Gezir. [Dr. Murray.] The chronology 

of these Axumite kings is doubtful and much disputed. 

(T. Mar., 1693.) 

AYACU CHO, the name of a plain in Peru, in South 

America, in the district of Guama. It is bounded on the 

east by the abrupt ridge of Condorcanqui, or Con- 

dorkahki, on the west, after a gradual descent of about 

six miles, it abuts upon the main road from Lima to 

Lima; and it is bounded north and south by deep rav- 

ines. Its form is almost a square, about four miles in 

length. This plain was the scene of a desperate conflict 

between the Spanish and the independent Americans in 

December, 1822. This battle was the joy of three months' skilful manoeuvring on both sides; of a suc- 

cession of marches and counter-marches, during which 

several skirmishes took place, the American troops always 

avowedly behind the enemy. 

The royalist army, overcom-maté with fatigue after so long and 

fruitless manoeuvring, were in such a state of discontent, 

that the viceroy always halted by columns, and placed a circle of 

sentinels, of the most trusty men he had, round his camp in 

front of it. The Americans, who seemed to have no 

intention of attacking them, yet always came up to 

snatch them. The royalist army, overcome with fatigue after so long and 

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snatch them. The royalist army, overcome with fatigue after so long and
Spainiards under Valdez, drove them back, and followed them across the ravine. The division of La Mar rallied, and, supported by the mounted grenadiers, also crossed the ravine. Colonel Plaza, of the independent army, did the same with his legion on the left, and Lieutenant-Colonel Moreau, with two companies of fusiliers on the right. These two battalions, supported by the cavalry, made two repeated charges so successfully, that Valdez was defeated, and his four field-pieces taken. The Spaniards now began to rally the remains of their army, but the French, by a strong division of horses and Lancers, gained the summits at about 1 p.m.; but at sunset the royalists sued for terms. Centanere rode down to the tent of Sucre, and a capitulation was agreed upon, by which the viceroy, 15 general officers, 16 colonels, 484 other officers, 7540 common soldiers of all ranks, with 2046 horses, 114 guns, and 13 mortars, became prisoners of war. A part of the territory hitherto possessed by Spain in Peru, with the exception of Callao, was also surrendered to the independents. The royalists had 1400 men killed and 700 wounded. The loss on the part of the Americans was 370 killed and 609 wounded. (See Memoirs of General Miller, vol. ii. ch. xlvii. xxv. Annual Register: American Annual Register.)

AYAMONTE, a city in Spain, in the kingdom of Sevilla, 37° 15' N lat. 6° 10' W long. It is situated on the slopes of a high hill, at the point where the river Guadiana enters the ocean. It is a fortified town opposite to Castromarin, in Portugal, the capital of the district which bears its name, and comprises thirty villages. There are in Ayamonte two pleasant public gardens, one of which includes a monstrous house, a bullbaiting-ground, and four hotels. On this last name the article is much esteemed in South America. There are some soap manufactories, a few brick and lime-kilns, and some of common earthware. In the neighbourhood of Ayamonte there are forests of fir-trees, in the heart of the interior. The building of the large fort is not very fertile. It produces on an average eight bushels of corn for one. The castle is of very old construction. The place was conquered by the Moorish king of Granada in 1486. The infant of Antequera wrested it from the hands of the Infidels two years after (1488). See Antequera. (Miliano's Dizionario, vol. iii. x.; and Mariana, lib. ix. e. 16.)

AYEN AKBERRY, properly AYINI-AKBARI, is the title of a geographical and statistical account of the Mogul empire in India during the reign of the emperor Jelheidlin Mohammed Akbar [see AKBAR], written by his vizir Abu'l Fazl. [See ABU' FEL.] It constitutes properly the third or concluding part of the Akbarnamah of the same author, and the first volume consists of a narrative account of Akbar's ancestors, and the second volume comprises the occurrences of his reign, from his accession to the throne down to the 47th year. A free and abridged translation of this work into English was first made by Mr. Browne Willis, and published at Calcutta, in 1793. It has twice been reprinted in England. As an original, and we may say an official account of the internal organization of the Mogul empire at the time of its greatest prosperity, the Ayeni-Akbar is highly interesting. It is divided into four parts: the first three are chiefly political and legislative, containing the regulations of the different household, military, and revenue offices, and showing the manner in which these different departments were administered. The last part is geographical, giving a description of the several provinces at that time comprehended under the Mogul government, and a detailed account of the ancient institutions, religion, and literature of the Hindus, which is very comprehensive and accurate. Everything of a religious nature is here accurately represented, and the whole work is interspersed with a number of tables, many of which are very instructive, and it abounds in notices of general interest, and of great utility for the history and geography of Asia. Among them we shall here only mention the alphabetical account of the provinces, arranged in that order by time different nations of Asia, and a long list of geographical names, arranged according to the Oriental plan of the seven chaupas, and stating the longitude (from the Happy Islands) and latitude of each.

AYLESBURY, a considerable town in Buckinghamshire, on the road from London to Warwick and Birmingham, thirty-eight miles from London, through Watford, Berkhamsted, and Tring, and forty and a half through Uxbridge, Amersham, and Wendover.

This town is situated near the centre of the county, on a small elevated land, the midst of the fertile vale of Aylesbury. It is close to a small rivulet which comes from the neighbourhod of Wendover, and which, after passing Aylesbury, falls into the Thames about two miles north-west of the town. It consists of several streets and lanes irregularly disposed. The town is built on a level, and the vale caused the want of water to be frequently felt by the inhabitants; but the houses are now well supplied by means of machinery in the mill, which is worked by the prisoners. The town is also well paved, and lighted with gas.

Although Aylesbury does not give name to the county, it seems to have the fairest title to be considered as the county town. The quarter-sessions are always held here. Lord Chief Justice Baldwin sat there in council during the time of Henry VIII. But in 1746 Lord Cobham procured an act of parliament for holding the summer assizes at Buckingham; the Lent assizes are however still held at Aylesbury, where also is the county gaol. It is the place that the principal members are nominated and where the return is announced.

The county hall is a handsome brick building, erected in the earlier part of the last century. The old town-hall and market-house, built at the expense of Lord Chief Justice North and erected in 1709, burnt to the ground in 1741. The present building is on the model of the Temple of the Winds at Athens. The parish church, dedicated to St. Mary, is a spacious antient structure, in the shape of a cross, with a low tower rising from the nave and transepts. The town is said to have been raised by that empress Matilda. The churchyard is very large, and has several vaults planted with double rows of trees. There are meandering walks for pedestrians (formerly for freethinkers), Baptists, Quakers, and Methodists.

There is a school, the origin of which does not appear to be clearly known. It was endowed with some tenements by Sir Henry Lee, of Didley, on Oxfordshire, before the year 1687; but the principal endowment is a bequest of 300l. left by Mr. Henry Phillips of London, in 1714, and invested in the purchase of land, which, with the other resources, produces an income of nearly 540l. The school building consists of two houses, one for the head or Latin master, and the other for the writing or English master, with a schoolroom connecting the two. In this school-room 100 boys are taught by the English master, while twenty more are instructed by the Latin master. The school is a classical and mathematical education, in a building adjoining and belonging to the church, supposed to have been originally a charity chapel. There is a charity, denominated, from the name of the founder, Bedford's charity, serving a yearly income of 82l. 13s. 4d. from houses and lands, which income is employed in repairing the roads and about the town, or distributed in money and clothing to the poor. There are five large cottages near the church, occupied by poor people, who are looked after by the person of the name of Hickman, in 1845, together with some other property, the net proceeds of which (about 60l. per annum) are distributed in alms to the poor. There is also a considerable property left by William Harding of Walsingham, in 1525, for the purpose of charity among the poor. An apprentice fee of 20s. is given with each child, and fourteen boys and girls are on an average bound yearly. There are many minor charities. (Regis of Commissariats of Charities, January, 1811.)

The only market in the town is that of beef. There is a market on Saturday, principally for corn, and on fairs in the year, chiefly for the sale of cattle. A market once held on Wednesday has been dismissed.

Aylesbury was made a corporate town and a parliamentary borough by the Act of Queen Elizabeth, in 1563, and consisted of a basti, ten aldermen, and twelve capital burgesses; but the powers of the charter expired (so far as
the corporation was concerned) in a few years after it was granted, in consequence of neglect in filling up the vacancies caused by death; and the right of voting for the members of parliament, which had been at first in the corporation, passed to the inhabitants paying scot and lot. In the early part of the last century, the corporation of Ashby and White, which brought on a serious difference between the two houses of parliament. Ashby claimed to be a voter of Aylesbury, and brought an action at law against White and others, the returning officers, for refusing his vote. He obtained a judgment in the Court of Queen's Bench, in which the case was subsequently brought, gave judgment in favour of the defendants. A writ of error was brought into the House of Lords, who reversed the judgment in the Court of Queen's Bench. The House of Commons claimed the seat, and the case went into the House of Lords, for electing their own members; and on the 23rd January, 1783-4, passed some strong resolutions on the subject, declaring Ashby guilty of a breach of privileges. An attempt on the part of Ashby to follow up the proceedings, and the institution of new legal proceedings against White and his brother officers by other parties, roused the spirit of the Commons, who committed the parties to the new proceedings to Newgate, and their attorney to the custody of the House of Commons, and ordered an open session of the court in the Court of Queen's Bench, but being restrained by that court, they petitioned the queen for a writ of error to bring the last proceeding into the House of Lords. The Commons ordered the persons professionally engaged in the management of the public business to be sent into custody, and their averment that they were taken, but the Lords granted them a protection, and passed resolutions declaring that neither house of parliament could create to themselves any new privilege, one in the business of the House of Commons, and the other in that of the House of Lords. The Commons declared that the Commons had created a new privilege, and had, 'as far as in them lay, subjected the Commons to the custody of the House of Lords, and the House of Commons, to the arbitrary votes of the House of Commons.' They also condemned that House for ensnaring or punishing the professional men, and declared a writ of error to be 'not a writ of grace, but of right.' The House had several conferences, from which appeared to be a decision in the House of Commons to pass a new resolus, and orders passed by the Commons, directing that officer not to make any return of or yield any obedience to the writ of Habeas Corpus on behalf of some of the persons professionally engaged, assuring him of the protection of the House. Ultimately, the proceedings were stopped by the propagation of Parliament. Since this time actions have often been brought against returning-officers, and verdicts obtained: so that the Commons were in effect defeated.

The British names of Aylesbury are numerous and remarkable incidents. In 1644, in consequence of the corruption of the scot and lot voters, the right of voting was extended to the freemen of the Three Hundreds of Aylesbury, conjointly with the inhabitants of the town not receiving alms. (Oldfield's Representation of History of Great Britain.)

The parish of Aylesbury includes the hamlet of Walton, where, as formerly a chapel, the convent forms the endowment of a priorate in the cathedral of Lincoln, within which a manor was held. Aylabury, and the archdeaconry of Buckingham: the vicarage is in the gift of the prebendary. The population of the parish is about 5000, and the area is 2500 acres. Many of the inhabitants of the manor areholders, by the discharge of the scot and lot, and bearing dikes, though the method pursued is by no means expedient to their humanity. They send a considerable number of ducats to the metropolis about Christmas.

Aylesbury is a very ancient town, and is said to have been one of the strongest garrisons of the Britons in their struggle against the Saxons, who took it in 571: from which time its name does not appear in history, till the great civil war in the time of Charles I., when it was garrisoned for the parliament. During the Commonwealth, it was twice taken and twice lost. The Saxons called it Aesypurga (Aylesburg). In Domesday Book, it appears under the name of Elschberie. In Leeland, it is written Alesbury; and in Camden, Aylesbury. In the mode of spelling is retained in the name of Aylesbury, which the family of Brasenhill Bruce takes from this town.

There was a house of Grey Friars at the south end of the town, founded by James Earl of Ormond in 1267; but it was very poor; the revenue, at the suppression of religious houses under Henry VIII., being valued only at 31, 2s. 2d. per annum. It became the seat of Sir J. Bald- win, Lord Chief Justice of the Common Pleas, to whom Henry VIII. granted it, and he sold it to the Park- ington family; but it was so much damaged by the great civil war, that it was never afterwards inhabited by them.

The site of the town of Aylesbury is on the S.W. of Tring. The other boundaries, except on the south side, are rather difficult to ascertain. Leland makes the town extend 'other- ways to Buckingham, to Stony Stratford, to Newport Pagnell, and along from Aylesbury to the Routes of Child, Hilles, and Dunstable. The hills bound the town on the south side, and run in a direction E.N.E. and W.S.W., nearly across the country. They are formed of chalk. The vale is better calculated for grazing land than almost any in the kingdom; but when the agricultural report of this county was drawn up in 1741, the method of farming seems to have been little creditable to the skill and attention of the agriculturists. Grazing and dairy farming seem to be at present the chief objects of attention. The soil consists of chalk, and the gravel and gravel supposes, an easy 'round about (the town of Aylesbury) on every side, are numerous flocks of sheep, loaded with wool, and yielding great profit to their owners. (Lyon's Magna Britanniae; Biographia Britannica; English and Welsh.)

AYLESFORD, a village in Kent, on the right bank of the Medway, a little to the left of the road from London to Maidstone, thirty-two miles and a half from the former, and about three miles and a half from the latter. The church consists of one poor chancel and two poor clerks. There is a stone bridge of six arches over the Medway; and in Ayles- ford-street is a building erected for an almshouse, and endowed by the will of John Sedley, in 1605, for a warden and six poor persons, but the property has been converted to private use, though now, by means of the commissioners for inquiring concerning charities, it is likely to be recovered, and the charity re-established. Ayles- ford has one fair in the year, on the 29th of June. The parish extends on both sides of the river: it contains 3310 acres, and had in 1831 a population of 1301 persons. It includes the hamlet of Milbale, on the left bank of the Medway, and in the civil jurisdiction of the Corporation of Maidstone.

The living is a vicarage in the gift of the Dean and Chapter of Rochester. It is in the deanery and archdeaconry of Rochester. The church was granted by Henry I. to the bishops of Rochester. One of those gave it to the priory of that city; but by one of his successors it was, towards the close of the twelfth century, transferred to the newly founded hospital at Stroud. The monks of Rochester priory appealed to the Pope; and after many years contest, and many decrees and confirmations in favour of each party, it remained with the hospital, and the master of that institution appointing a vicar to celebrate divine service. Just before the dissolution of the religious houses, the master and brethren of the hospital resigned their hospital and all its possessions to the prior and convent of Rochester; and the new vicar, by the dispensation of the dean and chapter, was allowed to receive the revenues of the house: the vicarage into the hands of the king, he granted the advowson of the vicarage to the Dean and Chapter of Rochester, in which it is still vested.

An endowment of 20l. per annum for a charity-school was bequeathed by a Dr. Charles Milner, of Praston Hall, in this parish, who died in 1771.

Close to the Medway, a small distance west of the village, was a Carmelite friary, founded a.d. 1346, by, or under the patronage of, Lord Granville, one of the last of the house of monasteries, the site, precinct, and lands of this were granted to Sir Thomas Wyast, and on the rebellion of his son in the reign of Queen Mary were forfeit to the crown. Queen Elizabeth granted them to the Sedley family, and the present occupants are now in the possession of the daughter of Aylesford. In the mansion of this family, and in the domestic offices, many portions of the friary buildings are still
visible. We take the following description from Hasted's History of Kent.

The greatest part of the ancient priory remains very fair, and by far the least demolished of any conventual edifice in these parts. The great gate from the road is yet entire. It opens to a large square court, in which are seen all the doorways to the cells. The side where the high buttresses and belfries were, was the great hall or refectory, now divided into rooms. The kitchen was likewise on the east side of the square, as appears by the large fire-places in one part of it. The chapel was that part of the building which stands east and west; the north side of which fronts the garden as the south does the river; the east window of it was where now is the dining-room or gallery-door with the iron balcony facing the town. The principal part of this priory, as the hall, chapel, cloisters, &c., was converted into stately apartments by Sir John Banks (who resided here in the latter part of the seventeenth century), and the cloisters were by him inclosed and paved with white and black marble. There is a fair high stone wall which fronts the road and encloses the garden, the same as when in its ancient state. — (Vol. iv. 24 ed. 1796.)

There are in the parish the ruins of the ancient free chapel of Longsole, now used as a barn, and called, from its lonely situation, 'The Hermitage.' It is about two miles from the town, on the other side of the Medway. On the window-frame of a large ancient barn (belonging to Preston Hall in this parish), built of stone, as well as on an outhouse near it, also of stone, and on a chimney-piece, are the letters TC with the date 1162 in Arabic figures. The use of these at that early period has been given rise to much discussion among antiquaries: the inscription is probably of a much later date, and refers not to the date of the erection of the building.

But the most remarkable monument of antiquity is that called Kit's Coty House, situated on the brow of a hill, about a mile N.E. of the village. It is composed of four large stones, of the stone called Kentish rag, according to Grose; while Hasted vaguely describes them as being 'of the same kind.' The following description of this monument is given by Stow in his Chronology, and quoted by Mr. Colebrooke in the Archaeologia, vol. ii. p. 112 (pub. 1773): — 'I have myself, in company with divers worshipful and learned gentlemen, beheld it in anno 1390, and is of four flat stones, one of them standing upright in the middle of two others, inclosing the edge sides of the first, and the fourth laid flat atop the other three, and is of such height that men may stand on either side the middle stone in time of summer, and look from wind to wind. It is being dealt with the breadth of the stones, having one at their backs, one on either side, and the fourth over their heads; and about a foot from this monument lies another great stone, much part thereof in the ground, as fallen down when these others were affixed.' This last extract says Mr. Colebrooke, 'lies about seventy paces to the N.W. in the same field. The thickness is half-burnt; but from its present position, it seems as if it had once stood upright. It has since been buried for the sake of building, and some of their parallel. It may be observed, that the openings formed by the stones of Kit's Coty House are not of equal dimensions, but the larger one incloses and E. and N.E., whereas some writers (as Grose) describe them as forming three sides of a square. The upper stone is not quite parallel to the horizon, but inclines towards the W. or S.W. opening, in an angle of about nine degrees. The dimensions of the stones are as follows. We take them from Grose's Antiquities.

<table>
<thead>
<tr>
<th>Stone</th>
<th>N. or W. Side, Feet</th>
<th>South Side, Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upright stone on N. or W. side</td>
<td>8 high, 8 feet, 4 feet wide, 2 feet thick</td>
<td>Estimated weight, 80 tons, 4 feet thick, estimated weight, 80 tons, 4 feet thick</td>
</tr>
</tbody>
</table>

No one has any marks of workmanship.

* Hasted says this stone is near seven feet in height, and rather more in breadth. In the other dimensions and weights he agrees with Grose, from whom it is likely he took them. The measurements given in the Archaeologia are very different.

At the distance of two fields northeastward from Kit's Coty House, in the bottom nearer to Aylesford, is a heap of the like kind of stones, some of which are partly upright, and others lying in a circle round them, in all to the number of nine or ten. Those that are partly upright, with a large stone lying across them, appear to have once formed a kind of structure like that of Kit's Coty House, and to have had the same aspect: the whole heap is now intergrown with elms and other coppy shrubs. This monument of antiquity is supposed to have been demolished by some persons digging a trench beneath it, in hope of finding treasure. (Hasted's History of Kent.) Still nearer to Aylesford is a remarkable stone, called, from its shape, the Coffin. Respecting the origin of Kit's Coty House, as well as of its singular name, different opinions are entertained. It appears that about A.D. 455, soon after the arrival of the Saxons in England, under Hengist and Horsa, when hostilities broke out between them and the Britons, a battle took place at Aylesford, one of the three which are thought to have compelled the Saxons to leave the island for a time. (Turner's History of the Anglo-Saxons, book i. c. 1.) In this battle, Catgern, brother of Guoretum, or Vortimer, the British commander, fell, as also Horsa, one of the Saxon chief-hams. It is commonly supposed that this is the monument of Catgern; and the name, Kit's Coty House, is considered by Stow, Camden, Grose, and others, to be derived from the name of that person. Grose has this passage: 'Perhaps the appellation of Kit's Coty House (so he writes) may be thus illustrated: Kat or K is possibly the familiar abbreviation of Catgern; and in Cornwall, where there are many of these monuments, those stones, whose length and breadth greatly exceed their thickness, are called Kat's stones.' Kit's Coty House may then express Catgern's House built with stones, and must have been a taunting reflection on the memory of that champion for the British liberty, used by the Saxons when in possession of the county of Kent. Mr. Colebrooke inclines to think it is the sepulchral monument of Horsa, which is commonly supposed to be at Horsted, a manor a little to the left of the road from Rochester to Maidstone, about two miles from the former, where are many large stones scattered about the fields, some standing upright, others thrown down. (See Hasted's Hist. of Kent.) The name of Kit's Coty House Mr. Colebrooke supposes to be derived from some old shepherd, who used to keep sheep on this plain, and shelter himself from the weather in this monument. Mr. Pegge (Archaeol. vol. iv. p. 110, et seq.) considers Mr. Colebrooke's hypothesis very doubtful, and regards this and other cromlechs as places of devotion rather than sepulchral monuments. Bede (quoted by Mr. Colebrooke) observes that the place where Horsa was buried retained his name, which he directs to be 'hurceno in orientalibus Canini partibus monumentum habuit suo nomine imaginis.' Now we suppose no one will pretend to say that the name of Horsa is incorporeal in the present title of this monument. The name is variously written: Keith Coty House, by Camden; Cothay House, by Lambard; (Perambulation of Kent, ed. of 1600); Kit's Cotthouse, by Stow; and differently by other writers.
Besides the above engagement, between the Britons
and Saxons, Aylesford deserves notice as the place to which
Edmund Ironside, about the year 1016, pursued the Danes
whom he had defeated at Oxford. Dr. Plot was inclined to
fix the Roman station Vagnia at Aylesford; but he
does not appear to have any followers in this opinion.

The name of this place has been variously written.
The Saxon Chronicle calls it Aeglesaford. According to Nen-
numus (a British historian of the early part of the seventh
century) Aeslafour, Aelisafour, Ailiisafroud, and the Britons
Saxenebrasuil, or Saxeneisagen-Hoel, from the overthrow of
the Saxons here. Asser (in the time of Alfred, who died
about a.d. 900) calls it Aeslafreth; in Domesday Book it
is called Elesford; in a MS. in the hands of Dr. writers Aillesford, and in Leland and
Camden, Aylesford.

The manner of Aylesford was, at the time of the Domesday
Survey, a royal demesne. It was subsequently held by the
Greys of Codnor, the Wyatts, and others.

In common with many of the villages of the
region of the several springs, which change the stones in them, as well as pieces of wood, to
a sombre hue, which becomes deeper when they are taken
out and have become dry. The water flows from a deep
chalky loose soil, is very chilly, and has a rough taste; but
there are no chalybeate qualities belonging to it. (Hasted's
Hist. of Kent.)

AYLSHAM, or AYLESHAM (written in Domesday Book
' Klesham'), a market-town in the hundred of South
Erpingham, in the county of Norfolk, about 11 miles N.
by E. of Norwich, 22 of the same town, 136 of
Norwich, or 118 through East Dereham. It is on the right
or S.W. bank of the river Bure, one of the streams which
unite just above the town of Great Yarmouth. Aylsham
was once noted for the manufacture of building brick, the chief place in
Norfolk for the linen manufacture; and in old records
the 'Aylesham webs' and 'Ailesesham linen,' and the 'fine cloth of
Ailesesham' are frequently mentioned. In the reign of
Henry VIII. the linen manufacture had in a great degree
given way to that of building brick. In front of the market-place
of this town, which was chiefly inhabited by knitters; but this branch of in-
dustry has since decayed, and no particular manufacture
now prevails in the town, unless it be that a few looms are
employed for the Norwich manufacturers. The market, for-
merly small, has been increased; the church tower is
cheesily in corn: there are two fairs in the year. The
river Bure was made navigable for boats of thirteen tons
burden, and drawing two feet four or five inches water in
the years 1773-1779. It had previously been navigable
only to Coltishall, six or seven miles below Aylsham. The
parish is large, containing 4250 acres. The population in
1831 was 2354.

The church, dedicated to St. Michael the Archangel, was
built about the time of Queen Elizabeth. It is in the
parish of St. Edmund, and belongs to the See of
Edwin III. In the fourteenth century, and is in the deco-
rated English style. It has a nave and chancel, with two naves
at each; also two transepts: the north is called St.
Peter's Chapel, and the south the Chapel of the Virgin
Marry. Close to the church pier (that of Aylsham), the
bar at the mouth of the harbour, and the depth of the water
at spring tides is fourteen feet; so that vessels exceeding
200 tons registered burden can be brought over the bar
in safety. There are two light-houses to guide vessels into
the harbour. The dues were valued, in 1551, at

100.

There are two parish kists in Aylsham; the old one stands
at the back of the High-street, on the east side of the town;
and the new one at the head of Catcath-street. The parish
church of St. Michael is in New Town, and stands in front of
the bridge. Besides these places of worship of the establish-
ment, there are Episcopal and Catholic chapels, and
meeting-houses connected with the following bodies of
dissenters: viz., Burghers, Anti-Burghers, Relief
Cam-
bridge, Independents, and Presbyterians. If it is supported by voluntary contributions. The county bridge-
wells is in this town.

The country round Aylsham is the most agreeable in
Norfolk, and when Blomefield wrote his history (towards
the close of the last century) it was much frequented in the
summer season on account of a spa or mineral spring, about
half a mile from the town. (Blomefield's Hist. of Norfolk.)

AYR, a royal burgh on the coast of Scotland, and the
country town of the shire to which it gives name. It is situ-
ated on the south side of the Firth of Clyde, about 77 miles S.W. of Edinburgh, and 34 S.S.W. of
Glasgow. The name Ayr is supposed to be of Celtic origin, and to

have been first given to the river, from which it has been
transferred to the town: the meaning is thin, or shallow.

The principal street (called High-street) is broad, with
two rows of well-built houses. The town is lighted with gas,
and was entirely re-paved something before 1820, so that it is
now one of the cleanest and best-paved burghs in Scot-
land. At the end of the street is the old bridge over the
Ayr, connecting the town with the burgh New Town upon
Ayr, which, though a distinct parish, may be considered as
a separate village. The church of Ayr, or St. Ninian's,
and Content, is included in the boundaries of the present
parliamentary borough of Ayr. A little below this old bridge
is the new bridge, an elegant structure of five arches, which
connects Sandgate-street in Ayr with Main-street in New
Town. At the foot of High-street are the public build-
and Content, are in the boundaries of the present
parliamentary borough of Ayr. A little below this old bridge
is the new bridge, an elegant structure of five arches, which
connects Sandgate-street in Ayr with Main-street in New
Town. At the foot of High-street are the public build-

ings, consisting of an elegant suite of assembly-rooms, and a public reading-room well
supplied with periodicals and newspapers. There is a spire in the centre of the building of feet high, where there is much
admired. These buildings were erected by the corporation at the cost of 10,000£. Near the south end of Sandgate-
street is Wellington-square (the name of which indicates its
modern erection), lying at its western extremity the county buildings, containing court and record rooms,
and other public offices. Behind these is the county jail for
debtors and criminals, erected on the most approved
principles, and in an airy situation near the sea. Wellington-
square is of considerable size. From the houses on the
south side to the church of St. Ninian's, it is about 500
yards long, and the length from the road towards Carrick, into which its
eastern extremity opens, to the court-house on the west, is
about 600 feet. South of it another new square, of much
smaller dimensions, is being formed. A few square yards of the
number of new streets in the same neighbourhood. In High-
street is a new building called Wallace Tower, erected in
the place of an old building bearing the same name, and
said to have been the occasional residence of the Scottish
Prince, the building is a square structure, 50 feet high, ex-
ecuted by Thom, the sculptor of Tam O'Shanter and Souter
Johnnie. Ayr is the residence of persons in easy circum-
stances, professional men, and tradesmen; and the business
which is done arises much from its rank as county town, and
from the residence of the baronet of that name; the benefactors of the town are
the banker, by whose benefactions, besides branches of the Bank
of Scotland and the Union Bank of Glasgow, New Town is
the seat of the coal trade. The different character of the
population of the two places is shown by this, that the
parish of New Town has more than 9000 inhabitants, as
many habitations as Ayr, there are only 40 female ser-

vants, while in Ayr there are 589. Ayr has 166 capitalists,
bankers, professional and other educated men; New Town
over 31.

The harbour is formed by the mouth of the river Ayr;
and from each side of the mouth a pier runs out into the
sea, as far as low-water mark. The length of the south
pier (that of Ayr) is about 1250 feet, and the length of the
north pier (that of New Town) is 1000 feet. The bar at the
mouth of the harbour, and the depth of the water
at spring tides is fourteen feet; so that vessels exceeding
200 tons registered burden can be brought over the bar
in safety. There are two light-houses to guide vessels into
the harbour. The dues were valued, as above, at

100.

Close to the new parochial kirk of Ayr is the academy,
which, from the close of the town's train, has drawn many
families to the town for the education of their children. The
number of scholars averages from 500 to 600 annually: the
harbour is very considerable; but its advantages are
increased by causing an increase of the buildings, and an
improve-
ment in the society. Ayr is a place of gaiety and fashion. It
has a theatre close to Wellington-square; and its races,
which are held on courses about a mile south of the town,
are well attended. On 1st July, when the races are over,
the Silver Cup is

* The measurements are indicated in the text contained in the
boundary reports.
coast to Carick, are a number of villas, chiefly inhabited by persons who are in business in Ayr.

To the west of the town, between it and the shore, stood the fort built by Oliver Cromwell, but demolished at the restoration of the Stuarts. It was defended by six bastions, and two circular paddocks or redoubts, intended for magazines. In its area, of about ten acres, was included the ancient parochial kirk of St. John the Baptist; in which the Scottish Parliament met to confirm the title of Robert Bruce to the throne of Scotland. The town was approached as a fortress, and the garrison of 1000 marks English (666¾ l. 13s. 4d.) to build a new one, viz., that which is mentioned above as "the Old Kirk," built in 1634. The tower of the kirk within the fort still remains, and two of the gates of the town, one leading to the old town, the other to the new town, at the high court of justice for the southern circuit (corresponding to the English assize courts) is held. Sheriff, justice of peace, and burgesses, are also regularly held.

The trade of Ayr, in former times, consisted in a great degree in the importation of wine from France, and the population was then considerable. There was a tradition, that nearly 250 years ago 2000 persons died of the plague. Subsequently the town declined; and in 1754 the population was seen to be in a backward condition at less than 2000; but it must have increased rapidly soon after, as in 1753 it was returned at nearly 3000. At present the trade of Ayr consists chiefly in the export of coal to Ireland, the import of timber, wines from British America, and of iron and hemp from the Baltic. Shipbuilding and fishing are carried on to some extent, the sandbanks of the coast abounding in all sorts of white fish. A considerable woolen manufacture has been lately commenced, to be extensive.

The rise of New Town is more recent than that of Ayr, and has been owing to its collieries, which are now flourishing. The population of the burgh and parish of Ayr in 1831, was 7000; that of New Town, 4000; and the whole town and conventicles, 13,500. There are two weekly markets at Ayr on Tuesday and Friday, and four fairs in the year.

Ayr is said to have been a place of note at the Norman Conquest, and to have been converted into a burgh by William the Lion, king of Scotland, in the year 1292. The corporation consists of a provost, two bailiffs, a dean of guild, a treasurer, and twelve councillors; and has an annual revenue of £200l., and a debt approaching near £20,000. The jurisdiction of the magistrates extends over the whole parish. It is a contributory burgh, returning conjointly with Irvine, Campbelltown, Lively, and Oban (the last three in Argyleshire), one member to parliament.

New Town is a burgh of barony; the burghs or free-mansies, viz., the number to form the council, and each of these what is called a lot or freedom, consisting of four acres of arable land, besides the right of pasturage on the common of 150 acres, which right is enjoyed only by the burghholders. The common revenue of the burgh is small. The common council consists of a provost, two bailiffs, a treasurer, and six councillors are chosen.

The boundaries of the parliamentary borough of Ayr, as fixed in 1742, comprehend the parts of three parishes of Ayr, New Town, and St. Quinva, and contain a population of 14,217.

The coast to the north and south of Ayr is flat; on the east the country rises gradually. The soil of Ayr parish south of that of New Town is very different. There are both in the prebendery of Ayr, and the synod of Ayr and Galloway. New Town was separated from the parishes of Monken and Prestwick, and formed into a separate parish in 1779. In the parish of Ayr (at least, in that of Alloway), which borders on the north of Prestwick, and is one of the most pleasant in Scotland, in 1729. The house stands by the roadside, about two miles from Ayr, and is pointed out to the traveller by a board with an inscription. On a height between the kirks of Alloway and the bridge of Deon, a monument has been erected to the memory of the French stone, in the form of a Greek temple, and contains a portrait of Burns, and some relics connected with him. The scenery in the neighbourhood is delightful in the extreme, which causes it to be much resorted to by strangers.

The parish of Ayr, from its situation, has been much frequented by the Legendary, as a place of refreshment to strangers.

Scots, or Erigena, one of the lights of the dark ages, and the Chevalier Ramsey, are claimed as natives of the parish of Ayr.

There was formerly a monastery of Dominicans, or black friars (the first they had in Scotland), and one of the thirteenth century. A seat of the Virgin Mary was said to have worked many miracles.

(Weber's Topographical Dict. of Scotland; Sinclair's Statistical Account; Playfair's Description of Scotland; and J. Ross's YNYS.)

The town of Ayr is situated on a low hill, extending from its northern extremity about thirty-one miles, and about thirty-five miles from the southern. The distance of the two extremities from one another in a direct line is about sixty miles. Such a line would be in a direction nearly N. by E. and S. by W.

The inland boundary, leaving the northern point of the coast just mentioned, runs in an irregular line towards the S.E., and separates Ayrshire from Renfrewshire and Lanarkshire; after it reaches the most eastern point (which is near the mouth of the river Clyde), it turns S.W. and about twenty-six or twenty-seven miles N. by N. of the town of Ayr), it turns to the S.W. and with many windings reaches the most western point of the coast, which is about thirty-six miles from the point above mentioned. The boundary then runs in a straight line. This last part of the boundary divides this shire from those of Dumfries, Kirkcudbright, and Wigton.

The southern and eastern parts, with a small portion of the northern part, have been the most fertile; and some of the necessaries are of considerable height. Along the shores of the Frith are narrow plains, abounding with gravel; the country inland rises into hills, which, as within an amphitheatre, the best part of the country. The principal hills are as follows:

Blackside-end, in the parish of Sorb, near the river Ayr.

Carleton Hill 1129
K nickowel near Knockdolan 1113
Knocknorman 1113
Ben-erdand, in the southern part of the county
Misty Law, on the border of Renfrew and Ayr
Ails Craig, a rock off the coast
Brown Carrick Hill, a little way south of the town of Ayr.

Ayrshire is a natural basin. Many streams rise near the inland boundary, and flow through the country into the sea, but the shortness of their course prevents them from being of much importance in a commercial point of view. Garnock, rising in the north, and pursuing a course to the south, unites with the Irvine, which comes from the east; or, rather, both these rivers fall into Irvine has so.

The Irvine, which is the larger of the two, is about twenty miles long. The Ayr, which rises in the county at its western part, flows from east to west, and falls into the sea near the town of Ayr. It has a course of from thirty to thirty-five miles. The Lugar is its principal tributary. The Ayr rises from several small lochs on the N.E. border of the county, and passing through Loch Doon, there are but few falls into the sea not far from the mouth of the Ayr, is of about the same length as that river. The Galloway and the Stinchwe may be in the same district as the Doon, as they come from the southern parts of the county. They are about twenty miles long. The river Doon, through the lower Galloway and Stinchwe, takes its rise in Ayrshire or on its border.

There are several small towns near the sources of the Doon, Green, and Stinchwe. Loch Doon, through whose valley the river Doon runs, is about nine miles long according to the Appendix to Sir John Sinclair's General Report.

From Weber's Topographical Dict. of Scot., 1
From the late imported European Report of Scot., and
From the King's Council, presented by the ministers for the Discipline of Scotch Affairs.
Scotland: but by measurement on the Map of Scotland, published by the Society for Diffusing Useful Knowledge, it is not more than about five or six, which agrees with the statement in Chalmers’s ‘Countries.’ The island gives the breadth as three-fourths of a mile. It abounds with fine trout. This fish is common in many of the other streams; but in the river Ayr itself, the quantity has been diminished, partly by the water that comes from the coal and lime mines and lime quarries near the sources of the river.

The Craig of Alls lies in the sea about eight miles from the southern part of the Ayrshire coast. It is not a mere rock, but the summit of a huge sub-marine mountain. It shelters the cove, and is protected by a superlative wall of sand and gravel, except the south-eastern, where the accumulation of the debris has formed a small beach. It is about two miles in circumference, and its summit rises to the height of 1088 feet.

It is covered with verdure, and is the abode of goats and rabbits, grills, auk, and guillemots. It is visited from the N.W., its form is heavy, but when seen from the north it assumes an elegant conical figure. It has on the N.W. perpendicular cliffs 200 to 300 feet high; but on the other side it is dotted with a sea present here and there some rocky faces, but roved generally with grass or wild flowers. It has springs about 200 feet below its summit.

This island is almost entirely composed of one species of rock, known as ‘grit sandstone,’ a white fine-grained, loose, and transparent quartz, the former appearing to predominate. It is mottled by minute and distinct stains of a black colour, which on examination are seen to be small grains of hornblende dispersed through the stone as from a common rock. It is covered by an abundance of coarse vegetation, and of plants peculiar to the other ingredients, a darker or lighter gray tint. The rock is commonly smooth, and breaks into irregular masses: but in several parts, and especially on the N.W. sole, it has a columnar structure. The columns vary in the number of their sides, but are mostly pentagonal or hexagonal, and from six to eight feet in diameter: they are not jointed, but rise continuously to the height of 100 feet. Their fracture is at right angles to their axes, and hence their summits are flat, and afford a habitations for numbers of birds. The columns on the summit of Staf’s and the extensive columns of Staffa; and these possess a requisite which the latter want, the power of catching from their lighter colour the most varied lights and reflections. There is an old ruined castle on the rock. (See an account by Dr. M’Culloch in the Transactions of the Geology Society, vol. ii. No. 18.)

The mineral riches of Ayrshire are considerable. Coal is abundant, especially in the middle and northern parts of the county. Coal measures are found in great coal-field of Scotland. Harbours and railways have been formed to carry the export coal trade. The coal is of different varieties, among which is the blende coal, found in the earth charred, or reduced to the state of a coals. It burns with a brilliant flame that can be felt for 300 yards. Considerable quantities are exported to Ireland and to the West Indies. Cannot coal appears to have been dug formerly, but we are not able to ascertain whether or not it is procured at present. Near Saltcoats eleven different strata of coal have been discovered. The coal of those seams is not all of the same quality. They were discovered by Mr. Cunningham, who sunk shafts, constructed the harbour of Saltcoats, and built salt-pans to consume the otherwise useless part of the coal. The coal is divided into two parts by two dense or natural walls of whinstone.

The county abounds with limestone. Freestone is quarried in great quantity; and there is some whinstone. In Mill and quarried at Kilmarnock, near the northern part of the coast, are in great request for their hardness and durability. They are said to be exported even to the West Indies and America. Near Auchinleck is a quarry of black stone near the number of buildings, or without horns. They are very hard, and grow fat where the large heavy breed of some other counties would be starved. Great numbers are yearly sent to England. The cattle in the northern part of the county is partly of the Dunlop breed, with thick coat and long horns. The finest is the Dunlop, which is considered as having the best a woollen yarn, or a wool, which is carried on. Lead, plumbeous or black lead, antimony, and copper (of each of which the quantity is small) may be considered as nearly completing the list of all the minerals of Ayrshire. (Playfair’s Geographical Description of Scotland; Britain of Scotland.)

There are several mineral springs, but none of them of such repute as to attract many visitors. The soil of this county is thus distributed by Chalmers in his Caledonia:

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay soil</td>
<td>861,900</td>
</tr>
<tr>
<td>Sand or light soil</td>
<td>120,110</td>
</tr>
<tr>
<td>Moss and moor land</td>
<td>285,330</td>
</tr>
<tr>
<td>Total</td>
<td>1,285,650</td>
</tr>
</tbody>
</table>

The light or sandy soil is met with along the coast, interspersed with a large number of waste lands within the eastern boundary the moor lands, intersected with moor roads. Of these moors, Aird’s and Moss Mallock, which last is partly in Lanark and Renfrew shires, may be noted for their extent. In the parish of Murrisk and New Cumnock, which are in the same part of the shire, more than half the land is moss. The clay soil, which constitutes so large a portion of the land, varies in its character: it is, in some parts, strong and productive, while in others it is spongy, wet, and cold; producing grass unfit for fattening cattle, and merely sufficient for keeping alive a breeding stock. (Fullarton’s General View of the Agriculture of the County of Ayr.)

Till about the middle of the last century, the agricultural improvement of Ayrshire was in most respects backward. There was scarcely a practicable road; the farmers’ houses were mere hovels; the lands were overrun with weeds and rushes. The arable farms were small, for the tenants had not stock for larger occupations; the tenure was bad, and the tenant had to pay rent, in a multitude of vexatious servies to the landlord. The land, divided into the croft or infeld, and outfield, was either neglected or worn out by successive crops of oats, as long as they would pay for seed and labour, or by an ill-managed rotation of two or three successions of oats, one of beets, potatoes, and some milk or cheese, constituted the chief of their diet. Even in the town of Ayr, containing from 4000 to 5000 inhabitants, not more than fifty head of cattle were slaughtered annually. A succession of bad seasons, at the end of the seventeenth and beginning of the eighteenth century, obliged hundreds of families to fly for subsistence to the north of Ireland; and the poor were not infrequently obliged to subsist by bleeding their cattle, and mixing the blood with any oatmeal they could procure. (Fullarton’s General View, &c., &c.)

Wheat is not cultivated to any great extent; and though the quality of that which is raised is very good, yet the cultivation of it is attended by many disadvantages. Big or bear is generally preferred to the common barley; but the barley of the Ayrshire coast, chief for its yield, stands pre-eminent, both for quality and produce. Turnips are increasing; potatoes are universally cultivated, and the artificial grasses on all improved farms. Flax also is raised. The best rotation of crops is considered to be oats or beans raised after ploughing up a grass field: after these, in dry soils, turnips or other green crops, such as kale, vetches, tares, or potatoes. In very strong soils, drilled beans, cabbages, and carrots may be substituted in the place of turnips. These are followed by a crop of barley sown with artificial grass seeds. After the clover, wheat or oats, and, in very light lands, rye. (Fullarton’s General View, &c., &c.)

Lime is the most common manure. On the coast, seaweed is much used, and sapers’s waste is in great request with some farmers. (Playfair’s Geographical Description of Scotland.)

The cattle in the southern part of the county are chiefly reared for the market, and are for the most part of the Galloway breed. They are commonly black or brindled (though some are white or dun), and without horns. They are very hardy, and grow fat where the large heavy breed of some other counties would be starved. Great numbers are yearly sent to England. The cattle in the northern part of the county is partly of the Dunlop breed, with thick coat and long horns. The finest is the Dunlop, which is considered as having the best a woollen yarn, or a wool, which is carried on. Lead, plumbeous or black lead, antimony, and copper (of each of which the quantity is small) may be considered as

2 C 2
been introduced at a considerably later period. They are, like the others, excellent milkers. The dairy is an object of great interest, and a considerable quantity of cheese is made. The Dunlop cheese is in good repute; and the making of it forms almost the sole business of the farmers in the parish of Dunlop. Other breeds of cattle are more or less in use among the farmers: they are occasionally introduced to give richness and colour to the milk and butter; the Irish, which are large, wide-horned, and raw-boned, but difficult to fatten; and a small Highland breed, which, having been bred on the hills, imparts that quality to the milk and butter. This milk is very bland, and to any in the flavour of the mead. A proportion of Dutch or Holderness cattle had been propagated in former times, but they seem to have declined; and the attempts made to introduce New Zealand cattle have not yet been successful. But Worcestershire and Leicester cattle appear to have failed. Oxen, it may be observed, are scarcely ever used at plough.

On the dry lands along the coast a small white-faced breed of sheep has long been maintained. They produce but little wool, and that of middling quality, and seem to have very little to recommend them. The native sheep is bred in great numbers on the moors. These are among the hardest, most active, and most restless of the sheep tribe. They are round, firm, and well-shaped, with black faces and horns. They eat barley, oats, soda, and hay teetively, and consume the flesh at five years old is excellent, and the tallow equal to one-fourth of the weight of the carcass. There is a breed at one part of the coast, the wool of which is very fine. The number of sheep in Ayrshire has been stated to exceed that of any other county in Scotland.

This county, with the adjoining one of Lanark, possesses a valuable breed of hardy and strong work-horses, superior perhaps to any in the kingdom. They were supposed to have originated from some Hanoverian or Holstein horses, brought over in the seventeenth century by one of the dukes of Hamilton; but it appears that great pains had been taken, at periods long anterior to that, to improve the Scots and to importations from Denmark, Holland, and Germany. The horses are well adapted for exportation.

Although a prejudice was long entertained against swine, it has for some time been giving way; and a considerable number are now fed upon the refuse of the dairy: but the breeding of them has not been so systematically conducted as in some counties of England. Rabbits are more numerous than in any other county in Scotland. They are bred for their fur; and are killed from the beginning of December to the end of February. Dendrell fowls are reared at almost every farm-house and cottage, and other kinds of poultry are not numerous; neither are pigeons nor bees.

Between two and three centuries ago there were considerable forests in this county. At the time of the Reforma-
tion forestage extended ten miles eastward from the town of Ayr; but this is no longer so. The only forest in the county, excepting Dalrymple wood on the river Doon, belonging to the Marquis of Ailsa, has been entirely destroyed; and nearly a century ago there was little wood in the county, excepting Beech and elms on the banks of the rivers Girvan, Mauchline, Doon, and Ayr. There were clumps of ash and sycamore round most of the farmhouses in the north, and some of those in the midland and southern parts. At present all the lower parts of the country and the banks of its numerous rivers are thickly studded with plantations around the mansions of the proprietors. It is to be regretted that, in the early period of improvement, the Scotch fir was preferred to the larch. Plantations of white yew have been set among the grasslands; and trees have been made with considerable benefit. There is a need for plantations near the lakes in some parts which is excellent for thatching.

The climate of Ayrshire is most, but far from unhealthy. The winter winds blow severally on the coast; and the part near the Islay of Ailsa is not frequented by frequent and heavy showers; the clouds being attracted by the lofty mountains of that island. The air is milder and more temperate than in the east of Scotland; and towards the western or coast side it is pure and free from fogs. Snows meet as they fall on the high ground.

The manufactures of Ayrshire are important, for the distilleries possess considerable advantages. Fuel is abundant; materials for building are at hand; and there are channels of communication open. The vicinity of Glasgow and Paisley seems to have given an impetus to the woollen manufacture. The woollen manufacture has been long established; and

bomests and sargent were early made at Kilmarnock. Impressed machines soon came in, and carpets, cloths (except the finer broad cloths), and stockings have been made. Towards the end of the last century the woollen manufacture was extended to other parts of the county, and is carried on to a considerable extent by the aid of machinery. Dyers and fuller houses have been established themselves in connection with this manufacture. The linen manufacture has also been introduced, though never carried to any great extent. In the village or town of Beith there is a considerable manufacture of thread. The silk manufacture was carried on above fifty years ago but has not been permanent.

The cotton manufacture, having been established in Glasgow and Paisley, soon extended itself into Ayrshire. Great cotton works were erected at the villages of Cattrine on the river Irvine and Causeway on the River Doon, and manufactured nearly all over the county. Bleaching, as connected with the cotton trade, has also been extensively carried on.

Leather is another article of considerable importance. Tanneries have been greatly extended; and the leather is employed in making shoes, boots, and saddlery. Of the latter some is exported to foreign parts. The iron works of Muirkirk have been already noticed. There are foundries in many other places. Pottery for domestic purposes is made, but not to any great amount, such as is much sold to advantage along the shore. It may be remarked here that neither brick nor tile are much used in this county in the erection of houses, the numerous quarries supplying plenty of stone for building, and this being neither so handsome as slate nor so warm as thatch.

Formerly there were no other roads than the pathways which led to church or to market; but now roads have been made in almost every direction in which they are wanted. There is a rail-road nine miles in length from Troon Point on the Frith of Clyde to Kilmarnock, made by the Duke of Portland; and others in different parts of the county, as well as some small canals, either for conveying coal to Saltcoats, the place of export, or transporting minerals to the iron works at Troon. A naval base is projected from Glasgow to Ardrossan; a third part has been executed, viz. from Tradeston opposite Glasgow, past Paisley, to the village of Johnstone: a rail-road has been commenced from Ardrossan to the canal with a view of completing the communication.

The county of Ayr contains the three ancient districts of Carrick, Kyle, and Cunningham. Carrick includes the country to the south of the river Doon; Kyle, the country between the Doon and the Irvine (which is again subdivided into King's Kyle, south of the Ayr, and Kyle-Stewart, north of that river); and Cunningham, the district north of the Irvine. These divisions are marked in many maps, and are used in speaking of the county; but they have had no distinct legal existence, and are not administered by separate judicial jurisdictions. The extent of these different districts and their comparative population are thus given in Sir John Sinclair's General Report of Scotland, Appendix, vol. i.:

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<th>County</th>
<th>Carrick</th>
<th>Kyle</th>
<th>Cunningham</th>
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<tr>
<td>2,763 sq. miles</td>
<td>380 sq. miles</td>
<td>260 sq. miles</td>
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This gives for the whole county 1,036 square miles, or 643,940 acres, which is not far from the statement given by Mr. Chalmers in his Caledonia.

The comparative population, as given by Sinclair, was calculated from returns previous to that of 1801. The proportion calculated from the returns of 1831, which gave 145,100 inhabitants to the county (assuming the calculation of the area given by the Reverend Mr. Cunningham to be correct), is nearly as follows:

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The chief towns in Ayrshire are as follows. In Kyle, Ayr, the shire town, a royal burgh, having in its parish a population of 7,666 persons; and Newtonton upon Ayr, which may be regarded as a suburb of Ayr, with a population of 7,965. In Cunningham parish, there are 7,569 persons in the village of Troon, which has risen to importance from the improvement of its harbour, the rail-road from Kilmarnock, the opening of the extensive quarries, and the flourishing state of the coal trade. In Cunningham is the burgh .

* Playfair's Observations on Scotland from 1666 square miles on the proper local documents.*
of Irvine or Irvine, with a population in the parish of 5200 persons: it is at the mouth of the river Irvine. The large manufacturing town of Kilmarrock (population of the parish 15098); the ports of Saltcoats (population not ascertained), Ardrossan (population of the parish 3194); and Largs (population 2045), which is frequented as a bathing-place, are also in this division of the shire, as well as the inland towns of Stewariston (which has a population of 1600); and Nainstoun in the parish of Loudoun (population 1650). [See Ayrshire, Largs, Kilmarrock, Largs, Saltcoats, and Stewarton.]

In Carrick, the towns of Girvan (population of the parish 64390) and Maybole (population of the parish 5897) have risen in importance of late years, largely due to the influx of operative weavers, chiefly Irish. [See Girvan and Maybole.] Ayr and Irvine have custom-houses.

The county returns one member to Parliament. Ayr and Irvine, with Campbeltown, Inverary, and Oban, in Argyll and Bute, are the three chief towns of the county of Ayr. Irvine is a contributory burg of the Renfrew district.

The population returns and Playfair's Description of Scotland contain a list of forty-six parishes, of which sixteen are in the presbytery of Irvine, twenty-eight in that of Ayr, and two in that of Stranraer, the chief part of the jurisdiction of which is in Wigtownshire, in which Stranraer is situated. Ayr and Irvine presbyteries are in the synod of Ayr and Glasgow: Stranraer is in that of Galloway. There are in Ayrshire several monuments of antiquity. In Girvan is the burial-place of a giant of the olden time, whose stone circle is 230 feet in diameter; and in the parish of Sorn one much larger. At the base it is about 250 feet in circumference, and it rises seven feet above the surface of the ground. The stones, which are also covered with a moss, are covered with gray moss. There is no tradition about the cause of the stones.

In some parishes of the county are oval or circular enclosures, the origin of which has been ascribed, perhaps without foundation, to the Danes. One of these, on the beach near Dunoon, contains, in its interior, concentric embankments of loose stones and earth; the inner one incloses a space of one acre; the outer one a space of ten acres. There is another camp on the same hill about 300 yards off, comprehending about an acre. From these embankments one might suppose that some vestiges of an encampment on a hill called Knockgeor, in the parish of Ardrossan; and on the eastern extremity of the same ridge are the remains of an ancient structure used as an alarm-post. From this post and from Knockgeor signals were made by smoke by day and fire by night.

There are the ruins of several castles and of religious houses, the relics of a somewhat later age than the forego-ers of the castles. Loch Doon Castle, on an island in Loch Doon near Carrick, was built of large blocks of freestone, and no quarry is known to exist within less than eight miles, and the intervening space is rough and mountainous without the vestige of a natural observatory. The coast of Carrick, was the residence of the Earls of Carrick, and the immediate ancestors of Robert Bruce. Being in the occupation of the English, it was stormed by Bruce, and does not appear to have been afterwards inhabited. Little more than the foundations remain: the ruins cover an acre or two ground. Among the other ruined castles are those of Thomastown; Fortencross or Portencross, opposite the island of Little Cumbrae; Dunure, on the Carrick coast; Dean Castle, between Kilmarrock and Stewariston; Ter- renan Castle, between the old Cumbraes and Dundonald (the last a royal castle, where Robert II. of Scotland, the first king of the Stuart line, lived and died), in the parishes so called; Kemplaw, in Dundonald parish, and Isle Bridge Castle, and others in Colmonell parish. The castles of Sorn, or Sornhill, and Knockenher, on the banks of the Girvan; and Greenend, on the coast of Carrick, are still inhabited. Skelmorlie Castle, on the coast, the northern part of the county, and Eglinton Castle, are the residences of the Earl of Eglinton; and Craighead Castle is the manse, or the residence of the minister near the town of the Marquess of Ailsa.

Of the ecclesiastical ruins, the chief are those of the Abbey of Crossraglaw, otherwise Crossrag, Crossragh, Colmorn, Crossam, and Crossatee, in the parish of Kirk Oswald. This abbey is more than any other in the west of Scotland; but as it lies low, and the surrounding country swells into hills on all sides, there is but a confined prospect from it. The walls of the church are almost entire, being about 160 feet long and 22 feet high. The abbey stood in an enclosure of about eight Scotch acres, which was surrounded by a strong stone wall, now almost entire. Kilwinning Abbey, a splendid house, was destroyed about the time of the Reformation. A part of it was used till 1775 as the parish church. At Maybole are the remains of an old collegiate church. The ruined kirk of Kilmaurs lies near Ayr has been immortalised in Burns's 'Ris O Shander.'

Ayrshire was inhabited, at the time of the Roman invasion under Agricola, by the great tribe of the Dammi. At a later period, the place of names and the annexation of the county from Ireland to the peninsula of Cantire, and crossed from thence into Ayrshire, were mingled with the Damni. In the eighth century, Kyle fell into the hands of the Saxons kings of Northumberland. In the ninth century, an attempt was made by Alpin, king of the Scoet-I, to subdue the district, failed. The invaders were defeated and killed. The people of Ayrshire at that time spoke the Gaelic language, and their country formed part of Galloway.

The twelfth century was marked by the introduction of Christianity from England, with its inevitable ecclesiastical and juridical growth; but the change was very gradual, and even at the end of the sixteenth century the Gaelic language was still spoken in Ayrshire. In the middle of the thirteenth century, the Norwegians invaded this part of Scotland; and in 1286 the king of Scotland, Alexander III., defeated them in battle, and was crowned king of the king of Scotland, Alexander III.

The decisive battle took place at Largs in Cunninghame. The seamen of Carrick came soon after, by marriage, into the family of the Bruce, lords of Annandale, and they took possession of Robert's house to the throne, which was carried in the crown.

In the religious troubles which occurred in the time of the later Stuart (Charles II. and James II.), the men of Ayrshire supported the Covenant with much zeal, and suffered severely from their sedition acts. Many which they had embraced: many were put to death, and the highland clans were brought in to live at free quarters among them. They consequently rejoiced in the revolution of 1688, which overthrew the power of their persecutors. In the same year, the moors, mosed, and falled, and there are several monuments to the memory of those who fell in the troubles; especially of the field-preacher Richard Cameron and some of his associates, who were killed after a skirmish with a party of the military in Charles II. time. The character of the people of Ayrshire, with their prudery and timidity, are detectable from the zealotish presbyterians. They are remarkable for their regard for religion, their decency, and good conduct. Burns's Cotter's Saturday Night may be regarded as descriptive of the manners of many of the inhabitants. The life of the people of Ayrshire, and the land they inhabit, in some instances, into irregularities and errors, as was shown by the rise of the prophetess, Mrs. Buchan, towards the close of the last century. Dissenters from the kirk are said to have increased much of late years in the populous towns and villages.

The island of Little Cumbrae, about a mile in length and half a mile in breadth, belongs to Ayrshire. There is in the south part of the island an antient castle, which was surprised and burnt by Cromwell's soldiery. There are also several caves. The loftiest eminence in this island is 750 feet high. The whole island belongs to the Earl of Eglinton. There is a light-house upon it. Great Cumbrae is in Bute-earldom.

* AYUNTAIMIENTO DE SANTIAGO, CONCEJO, CABIDO, REGIMIENTO, and the names given in Spain to the councils of the towns and villages. These councils are in general composed of the corregidor, alcalde, regidores, jurados, and personeros, or hombres-buenos. All these officers, with the exception of the corregidor, was always appointed by the government, were originally elected every year by the inhabitants of the concejo or commune. To be the head of a family, a native of Spain, and settled in the commune, were the only qualifications required either for civil or for military offices. The insinution may be traced to the remotest period of Spanish history. (See Maseo's Historia Critical, vols. iv. to ix.)
more particularly vol. viii. book 2, pp. 22-28.) It existed in the Peninsula under the Romans; and under the Goths it was called the Council of the Proposatius or Villiæ—a political and military governor appointed by the king. The individuals who performed the council were called priores or seniores. In the eleventh and twelfth centuries, the territories where the cruel and devastating wars between the Christians and Moors had deprived of inhabitants were again peopled, and the kings of Leon and Castile made the ayuntamientos familiar. In these new colonies, the many great privileges were bestowed on such as chose to settle in these new colonies. The colonists acknowledged the king as their only lord, and bound themselves by a solemn oath to observe all the laws contained in the feudal code, which had been transmitted from the nobility, viz., neda-Foera, or charter-money. The king likewise bound by an oath to maintain faithfully all the privileges granted in the fuero, not to defraud the concejo or any of its members of their property, and to keep them in protection. Every man in the concejo has a soldier, and was bound to arm himself, and to follow the penion of his alcalde, when legally summoned to the defence of the concejo or of his country. In some of these concejos the king appointed an officer who had the political and military command in the commune, collected the revenues, and watched over the observance of the fuero; but this officer had not either a voice or a vote in the ayuntamiento, and was in every other respect subject to the authority of the concejo. The town council, as it was called, delivered demands of the ayuntamiento to the real or the seniores. The administration of justice, the levying of taxes, raising of troops, and all the interior policy of the concejo, devolved upon the ayuntamiento. The members of this body were chosen every year by ballot, by the inhabitants of the large cities. The smaller concejos had a retired officer for himself or for his friends, or endeavoured to bribe the electors by money, or even by the favour of the king, was thereby deprived of the privilege of ever becoming a member of any ayuntamiento. To supply the expenses of the concejo, it was provided that a fixed portion of public buildings, the endowment of schools, the construction of roads, and other works of public utility or ornament, every concejo possessed certain property, which was inalienable. This fund was increased by the multas imposed on certain criminals by the ayuntamiento. Any individual of good character in the body, or who chanced to be in the service of the concejo, had the right to ask for the fuero of a particular house, and to become a commune; nor was he allowed even to build a castle or a palace by which he might be distinguished from the rest of the citizens. If any one attempted to do so, the alcaide was bound by fuero, and under the menace of death, to prevent him from the execution of his purpose. Every individual who resorted to these cities found in them the most perfect security against oppression; and in some of them, as was the case in Cuenca, he could not be prosecuted for any crime which he might have committed, or even for defaults in paying his tolls, sitting in the concejo: many accordingly withdrew from the tyrannical rule of the feudal lords, and flocked from every quarter to this seat of liberty.

Such were the amenities enjoyed by these colonies and their consequent state of prosperity, that many banias voluntarily enhanced the privileges of their rank to settle in them. Many bechiras, or free cities, which were at liberty to place themselves under the protection of any lord they chose, preferred to be subjected to the power of the king, in order to have the same privileges as the concejos. Similar fueros were also granted to such cities as rendered eminent services in the wars against the Moors. In all ordinary cases the ayuntamientos decided alone, but every subject who could find no justice from the authority of the commune, could appeal particularly in villages, decided in concepo abiertos, or open council, in which all the citizens in the commune have a voice. When the king ordered any thing contra fuero, the same would place the king's order upon his head as a sign of respect, and proceed to act by the well known formulas of "nulla in causa, nullo adjudicetur, i.e., let it be obeyed and not fulfilled. These ayuntamientos had also the privilege of sending their procuradores, or deputies, to the Cortes, or great assemblies of the nation; and these procuradores formed there the Brutos de las Universidades, or the house of commons. This Bruto was always the most powerful auxiliary of the crown, and the most effective check against the pretensions of the barons in the times of feudalism. During the disturbed minorities of Ferdinand IV. and Ferdinand V., the temporary constitution of Spain almost suffered greatly. The kings and the feudal lords, always ready to take every advantage to forward their own interest, and to encroach upon the liberties of the nation, mixed themselves with the present disturbances in the elections of the king, the appointment of the councilors, and in appointing their members in some concejos. The Cortes constantly renounced against this abuse, and several laws were enacted to prevent its continuance. Another innovation introduced by the kings was that of appointing alcaldes for the larger concejos, or city councils, and minister justices in the concejos in the name of the king, thereby depriving the ayuntamientos of the judicial power. Under John II. of Castile, in the fifteenth century, on account of feudalism in its last stage, it was established that the ayuntamiento of that city should be composed of sixteen ropadores—eight for the nobility, and eight for the commons, all appointed by the king, and holding their offices for life. This abuse, says Marana, 'led to another, viz. that of selling these offices, to the great detriment of the common weal, and thus, institutions which are so noble in their origin and tendency are often turned into evil. The nation continuing its remonstrances against this abuse, a law was enacted about 1510 (see Hespana, book viii., c. 12), by which it was forbidden to appoint anyone having a population under 5000 souls (about 10,000 souls) should have an ayuntamiento appointed by the government. Under the prefigurate government of Philip IV., the municipal offices were shamefully sold to the highest bidders in several of the large concejos; and the sale of the offices, for these offices offered little or no inducement, they continued to be elective. Some towns bought the privilege of electing their municipal officers, and were called on that account concejos redimatos, or redeemed councils. Under the prefigurate government, it was provided that two officers named personeros diputados del comun, or members of the comun, should be elected in every town to protect the interest of the people in the ayuntamiento. The Cortes of 1517 abolished all the abuses, and all the towns were restored to their primitive right, selecting their municipal officers. Ferdinand VII., on his return from France in 1814, re-"
Section 2. Flowers covered with numerous glutinous hairs. Stamens much longer than the corolla.

3. Azalea nitida, Pursh. Branches with very few hairs. Leaves small, rather leathery, shining, and smooth on both sides.—Found in deep mossy swamps on the mountains of North America, from the state of New York to Virginia, flowering in June and July. The leaves of this plant, which appear a little earlier than the flowers, are dark-green, shining, and smaller than in any other species; the only parts which are hairy are the mid-rib and the margin. The flowers are white, with a red ting, and glaucous. The tube is a little longer than the filaments; the calyx is very short; the stamens are longer than the corolla. It is doubtful whether this is to be met with in cultivation.

(See No. 1.

4. Azalea heptada, Pursh. Branches clothed with numerous stiff hairs. Leaves long-lanceolate, covered with bloom on both sides, hairy on the upper surface, and smooth on the lower.—A native of the borders of lakes, and on the highest part of the Blue Ridge in the state of Pennsylvania. It is found in upland shrub, growing ten or fifteen feet high, with a bluish aspect, by which it may be recognized at a distance. It is distinguished from A. glauca by its greater stature, its longer stamens, and its very erect mode of growth; also, its glaucous bloom, and the redness of the calyx. In the other species, Pursh says its flowers in a wild state are white with a red border, and a tinge of red in the tube, which makes them appear to be of a rose colour before they are open; and that they frequently have ten stamens.

In cultivation it is often called A. glauca var. candida.

5. Azalea pontica, Linn. Leaves large, not shining, pukered, reflexed and wavy at the edge, green and slightly hairy on both surfaces. Flowers yellow, long-stalked, covered with long hairs and glutinous glaucous.—Common in the Crimea, Caucasus, and the eastern parts of Poland, rendering the whole country a brilliant garden with its golden fragrant flowers, during the month of May. Although found on the mountains, it is by no means an alpine plant, but grows in the hilly regions on the air above the forests. Pursh says its tube is in a fluid nectar, which is said to render poisonous the honey collected by the bees at the time of its blooming. It is readily known by its large yellow corollas from all the American species, in the gardens it is found to a pale straw colour, which is called white by collectors.

Section 3. Flowers with scarcely or glaucous hairs. Stamens much longer than the corolla.

6. Azalea periclymenum, Persoon. (A. auriflorus, Wild.; parericymenum, coccony, coccnea, rubra, rustica, cerasus, alba, papilionaceus, paritia, polyanthera of the Gardens.) Leaves flat, nearly hairless, except the midrib, which is bristly. Tube of the corolla much longer than the limb, which is white.—Found wild in woods of the North Atlantic United States, where it is called Upright Honey-suckle—a name which it well merits for its fragrance and beauty. It is a smaller plant than A. viscosa, rarely exceeding the height of a man, and being generally much shorter, and exceedingly compact, it was formerly distinguished by its yellow flowers appearing before its leaves, whence it was called A. sulphurea; but as this is an uncertain circumstance, the name we have adopted from Persoon deserves the preference. Its leaves are bright green, and nearly smooth on the upper side, flat and thick; veins purple on the under side, and the branches are slightly downy, and their margin covered with stiff hairs. The flowers, which appear in clusters at the ends of the branches, are almost entirely destitute of the glutinous glands of A. viscosa; they have generally more petals than white in their colour, and have remarkably long stamens. Our gardens are filled with variations from this species: it is easily known by its smooth hairy flowers and long stamens from A. viscosa, which is far more sweet; of the varieties the handkerchief is the old one, Azalea viscosa var. Michaux (A. picular, Pursh). Leaves hoary, especially beneath, where they are also downy; their midrib without any stiff hairs. Tube of the corolla of about the length of the limb, which is white.—On barren sandy hills, in the southern States of the United States, on the banks of rivers in South Carolina, and on the mountains of Virginia, this species grows wild; it resembles A. periclymenum.
Azaelea cinerarie. (A. pontica; sinenasi. Botanical Register, plate 1253). Leaves downy on both sides, sharpened, glaucous beneath, reflexed and wavy at the edges. Flowers covered externally only with a fine siliquose: their tube much shorter than the bell-shaped limb, the divisions of which are acute. —Introduced from China by Mr. William Wells, of Redleaf, about the year 1836, and supposed to be a native of that country. Its leaves are very like those of Azaelea pontica, except that they are glaucous underneath, and its flowers are of a bright clear ochry yellow; it is even supposed to be a mere variety of that species. Its bell-shaped corolla, however, without any glandular or other conspicuous hairs on the outside, and with scarcely any tube, distinguishes it so distinctly from it as to be generally distinguished from it.

11. Azaelea indica, Linnaeus. Leaves obovate, flat, green on both sides, and very abundantly clothed with stiffish brown hairs. Flowers quite smooth externally; their tube much shorter than the bell-shaped limb, the divisions of which are rounded. Calyx small and very hispid; stamens five. —This and the following are the most beautiful plants which exist in the rich Florflora of China, where they far exceed in splendour of appearance the camellias, magonias, chrysanthsisms, and roses of the favoured climate. They form a beautiful group of plants in their native state from which they are often transplanted. The branches usually drooping, and covered when young with stiffish brown hairs. The leaves are deep green, flat, and half evergreen, usually tinged with brown, and consequently quite free from the slightest trace of freshness of foliage. The flowers are large and showy, and gaily marked with brilliant colours. The calyx is very small, and closely covered with stiff hairs. Of the many varieties cultivated by the Chinese, the following are the only kinds that have yet arrived in Europe. 1. The Chinese, or the One-sided, with leaves covered with very rusty leaves, and flowers coloured with orange and dusky red —a splendid variety introduced in the year 1819. 2. The Double Purple, with double purple lilac flowers, not very beautiful. 3. The Variegated, with rose-coloured flowers, not very beautiful. 4. The Crimson, and the Indian, occasionally becoming wholly red; the most beautiful kind of all.

12. Azaelea indica, L. H. Bak. Leaves obovate, flat, evergreen, green on both sides, and clothed with brown hairs. Flowers quite smooth externally; their tube much shorter than the bell-shaped limb, the divisions of which are dilated and wavy. Calyx with leafy acute sepals; stamens ten —five of A. amurensis, and five of A. amurensis —greenish, from which it differs in its leafy calyx, evergreen, less rusty, shining leaves, larger flowers, and more numerous stamens. There are two varieties in the gardens, the White and the Royal Purple, or Pyramidal, of which the former is a more noble object when covered with its large blossoms of the richest Tyrian purple.

For Azaelea procumbens, see CHAMELEON.

For A. lappacea and fragrans, see RHODODENDRON.

For the number and beauty of their flowers, the azaleas are among the species of very unequal degrees of beauty, it may be useful to the horticulturist to know that the most remarkable are the following: A. lutea, protoc, scabia, pumila glaucia, nitsa, A. nudiflora rubra, violacea, corvinae (major and minor), stamine, rustica, variabilis, longiflora, cherrina, incarnata, blanda; vittata; marmale; trilobales; grandiflora; vericolor, cobungarii, and papilionacea, gloria mundi; amhornisima; chrysanthea; forsteriana; flowers having a buff tube, and those in, however, far exceeded by that of the Higher Scarlet, or thyrseae (Bot. Reg. t. 1367), a plant which is covered in the spring with low thyrseae of the most brilliant crimson flowers.

The foregoing are the nurserymen’s names by which the varieties may be known, and from which they may be obtained. In the name of Ghent Azaleas, or at Highbee, in Hampshire, by the late Lord Caernarvon. Their parents have been usually some deep-coloured variety of A. pericentralis or A. amurensis. On the other hand, the former giving colour and fragrance, the latter size. Some of the finest of the kind are the following —the variegated pontica or vernicolor, figured in the Botanical Register, plate 1559; the sparkling or scintillans (Bot. Reg. t. 1560); the Black and the White, with large white blossoms bordered with rose and stamened on one petal with yellow; the copper-coloured or aurea (Bot. Reg. t. 1366); and above all, Lady Harriet Stapleton’s (Bot. Reg. t. 1407), with deep rose-coloured flowers having a copper tube, and those of the petals stamened in the centre with a clear buff colour.

The cultivation of azaleas must be divided into that of the hardy and that of the greenhouse kinds. Hardy species succeed in places of ground mixed with about one-third or even one half loam. They should be sheltered when young by one another, or by rhododendrons, which can be cut away as the azaleas advance in size, for they are natives of swampy situations, and require to be kept young, completely protected from the searching sun. The dampness of our climate renders it unnecessary to treat them as swamp plants; on the contrary, they succeed nowhere in England better than on the sides of dry hills or on elevated ground; but it is absolutely indispensable that the soil in which they grow should be screened from the sun, either by their own shadow, or by that of other things. Their roots run along just below the surface of the soil, and never force their way downwards more than a few inches; they are of a delicate texture, and are easily injured. For this reason the best gardeners never allow the soil in which their azaleas grow to be either hoed or raked, it is only hand-weeded, and allowed to become mossy. Every year or two the bed receives a top-dressing of peat and loam, into which the young roots immediately strike from within the old and exhausted soil.

For the greenhouse azaleas a mode of management essentially the same in principle, but different in application, may be required. It is subject to a long period of dry or cold weather, whose vegetation is sometimes torpid; but during the growing season the air is remarkably mild and moist, with brilliant sunshine. The cultivation must adapt its practices to this natural state of things; by growing the young plants, and the young shoots of the old plants, growing, and afterwards allowing them to take a long rest. For this purpose he should commence forcing them gradually at a temperature of 50° or 55° during the month of January, keeping them gently moist; in February he
he was called, and as vegetation becomes more active, moist—re should be more freely applied along with a very small quantity of liquid manure. This mode of treatment must be persevered in, never allowing the temperature to rise above 75° or 80° at the utmost, until the flowers are expanded; after which they happened the plants should still be kept growing until June or July, in which month the discontinue, except at intervals, and they should be allowed to sink to rest, in which state they are to remain till the succeeding January, great care being taken that and be watered with rain or melted snow. The plants are to be set in light, and that as much air as possible is given them.

When about to be again called into existence, they should be shifted into new pots of a larger size than before, and supplied with fresh peat and loam; but in doing this the utmost care must be taken of the roots, in order to better to wash away any soil that it may be necessary to remove, rather than to break it off in the rude manner too usually practised by gardeners who are ignorant of the principles of the operations which they perform. Managed thus, the Chinese azaleas are beyond all comparison the gayest plants that are grown: less stiff and formal than the camellias, equalling in brilliant colours the South American cacti, and infinitely superior to all of them in their graceful forms and graceful manners.

It is wonderful that they should not be more extensively cultivated in this country, where, with their flowering season, visit the garden of the London Horticultural Society, or particularly that of Sir Edmond Antrobus, in Clapham. From these gorgeous plants appear in unrivalled magnificence.

Azaleas are usually propagated by layers; but they may be increased quite as readily, and at less expense, by cuttings of the young half-grown wood, placed under handkerchief, and kept in a glass case, for three weeks, when watering should be discontinued in river—sand. The principal difficulty under this mode of treatment is to preserve them during the first winter after they become plants, as they are apt to damp off; the only remedy is to give them a free ventilation, and constant care to remove those which perish.

AZA'NI, an ancient town of Phrygia, in Asia Minor, now in ruins. Herodians call it Azani, from Azan, the son of Tangitius, and says that some called it also Azanion. The inhabitants were called Azanites, or Azanites. (Stephanus Byzantinus, de Urbibus.) Strabo (xii. 576) mentions Azani, Nacoelea, and Ketysaen (the present Kiolata) as towns of Phrygia Ecipetus. Its situation had been long a matter of doubt, until a few years since, when Mr. Keppel visited the place, when, on examining the ruins at length, he found there that they belonged to the Azani or Azani of the ancient geographers. It is situated twenty miles S.W. of Iolussa, on the banks of the river Rhyndacus, on which are two ancient bridges. A vast quantity of shafts of marble, Martian, and other columns, have been scattered on the ground, and the Turkish village of Tjadvente Histar has been built entirely on the ruins. Rows of erect columns are still standing in several places. The town is in a ruinous state, and remains in an advanced stage of decay. The theatre is 223 feet in diameter; the stone benches and part of the walls still remain. Some of the Greek inscription on the pediment of the temple to the god of Hadranus. Numerous coins of Roman emperors and others have been found in this neighbourhood. (G. Keppel's Journey across the Balkan and into Asia Minor, London, 1831.)

AZAR--DON FELI'Z DE, was born at Barbanules, near Bariastro, or Barbarasto, in Aragon, in May, 1746. He received his early education at Huesca, and afterwards studied at the military academy at Barcelona. In 1764 he entered the army, and served as a lieutenant in the expedition against Algiers, against O'Reilly, in which he was wounded. He was made a captain in 1776. In 1780 he was sent, with the rank of lieutenant-colonel, as one of the commissioners appointed by Spain to define the limits of its possessions in Paraguay, which had been long a matter of dispute between Spain and Portugal. While there, he undertook the task of making a map of Paraguay, a labour which occupied him for thirteen years. He had to explore vast and wild unknown regions, and to be assisted by Indians taught to make maps, and the midst of dangers and privations of every kind. Far from being assisted by the Spanish authorities, he was persecuted by them: even his papers were taken from him, he was accused of having a treasonable understanding with the Portuguese, and was subject to the governor at Assumption, and from the viceroy at Buenos Ayres. Jealousy and ignorance were the origin of these persecutions.

Azar's character, however, stood proof against them, and he rendered some essential services to his government, especially in reconnoitring the coast south of the Rio de la Plata, in the country of the Patagonians. He was recalled to Europe in 1801. He then went to Paris, where his elder brother, Nicolas de Azara, was then ambassador for Spain; and he remained there until his brother's death in January, 1803. Afterwards, Charles IV. king of Spain, called him to Madrid, and appointed him a member of the council for Indian affairs. Azara's travels in South America were written in French and Spanish, and published in 1808, edited by C. A. Walekens, to whom the author had intrusted the revision of the work; with notes by G. Cuvier, an atlas, and a life of Azara, 4 vols. 8vo. They contain a description of Paraguay, and of the various Indian tribes scattered through that vast region of varying and characteristic varieties; with an account of the Spanish discovery and conquest, and of the establishment of the missionary colonies by the Jesuits, and of their singular system of government and instruction. The second part of the work consists of a valuable history of the quadrupeds and reptiles of that country, which had been previously published separately in 2 vols. 8vo. Paris, 1801; it was translated into French from the first ed. of 1790 by M. de St. Mey, 2 vols. 8vo.

AZARA, DON JOSÉ NICOLAS DE, was born at Barbunales, in 1731. He studied at Salamanca, where he distinguished himself so as to attract the attention of Don Ricardo Val, minister of King Ferdinand VI., who offered him a place in the department of foreign affairs, which Azara accepted. In 1760 he was sent to Rome, as agent for the ecclesiastical affairs of Spain. Don José Monino, known afterwards as the Count of Florida Blanca, who was then Spanish ambassador at the court of Venice, appointed Azara his successor. Charles III., was succeeded in the embassy by the Duke Grimaldi, but Azara performed all the real diplomatic business with the papal court. He took an active part in the difficult negotiations concerning the expulsion of the Jesuits from Spain. Azara was gouty, and for this reason was not a good choice for his successor. He enjoyed the full confidence of Pope Pius VI., and had much influence on the Roman politics of that time. Azara was fond of literature and of the arts, and was intimately connected with all the distinguished men who were then in the Roman capital, such as Cardinals de Bernis, Alboni, and Borghi; the archaeologists Winckelmann, Fos, Marini, and Visconti; the artists Canova, Angelica Kaufmann, Mengs, Volpeo, b.c.; and the learned Jesuit Artesgado, Andreas, Clavairo, and Oriol. Azara was especially the friend and patron of Mengs. After the death of that artist, he provided for his family; and he wrote a life of the deceased, which he prefixed to a splendid edition of Mengs's works, made at the printer Bedetti. Azara made a valuable collection of ancient objects, and he was successful in several excavations near Rome. In 1794, when Bonaparte threatened Rome, Azara repaired to his head-quarters in order to avert the storm, and he succeeded in persuading the tribes of the French, though at the price of exorbitant contributions imposed on the Roman state by the conqueror. Azara, after this, felt that his influence with the papal court had declined, and his position became unpleasant. In 1795, when the French government was in Rome, Azara went to Florence. In 1801 he was appointed ambassador for Spain at Paris. He lost his situation through the intrigues of Godoy, the favourite of King Charles IV., and died in 1803, as he was preparing to sail for Italy for some personal studies.

AZAROLE. [See Czatu'gru.]

AZERBIJAN, or AZERBAIJAN, also named AZER-
BAKIAN (Ouseley's Elb Haukal) and ADERBIJAN, is the most western province of the present Persian empire. According to an observation of Sir William Ouseley (Travels, vol. iii. p. 412), Tabriz, the principal town of Azerbijan, was originally called Azerbaiján, from a celebrated fire-worship, Ades a keten, on which not only gave the denomination to the place where it stood, but to the whole province; this name has been altered into Azerbaiján, and by those who affect to write after the Arabian manner, into Azerbijan. (Compare H. de F. Ollendorf, Armenierisches, p. 312; Schlozer, Index to his Vita Salutatis, &c. art. Aserbajisana.) We are inclined to think that the name Azerbaiján, or Azerbijan, is etymologically, the same with Atropatene, under which designation the country was equally known as a province of Media. Strabo, indeed. (lib. xi. c. 13.) would make the name Atropatene, a derivative of Atropates, the name of one of its governors; but this explanation seems unlikely to be correct. Azerbijan is situated between 44° and 49° E. long., and between 37° and 39° N. lat. It is separated in the north from Armenia by the river Araxes, in the east from the table-land of Arag in and Persia by the Kurl-Ozen; towards the south and west it borders on Kurdistan and Taurus. Strabo limits the province, as defined by Strabo (xii. c. 13.): it is situated, he says, towards the east of Armenia and Matiane, towards the west of the Greater Medea, and at the same time towards the north of that of Arzachel, the land extends, on the south of it, to a considerable number of the villages dwelling around the corner of the Hyrcanian or Caspian Sea. (See Grkzad's note to his German translation of Strabo, t. ii. p. 421.) Nearly the whole country consists of a succession of high mountains, separated by numerous depressions, which are partially cultivated and opening into fertile plains. In the very centre of Azerbijan, between Tabriz and Maraghe, are the mountains of Sahand, forming an isolated mass, which rises to the height of 9000 feet above the level of the sea. In a defile in these mountains formed by two large torrents, near the village of Sahand, Colonel Monteith visited and examined a large cave similar to the Grotta del Cane in Italy, and filled with a heavy and noxious gas. Towards the east of Tabriz, and in the vicinity of Arzachel, the mountaineous tract extends over 12,000, or perhaps 15,000 feet. It has the appearance of having been a volcano, though no remains of a crater are now visible. The rocks near the mountains are decidedly volcanic, and all round its base are hot springs. Towards the south-east the high range of the Kafan-Kuh, a branch of the mountains of Kurdistan, follows the course of the Kurl-Ozen, and in common with that river constitutes the boundary of Azerbijan towards the Persian Irak. In the north, Kinneir mentions the black rocks of the Karasog. Towards the east of Tabriz, and near the city, the mountainous tract is also formed in a direction from north to south, nearly parallel to the shores of the Caspian. The famous, though now abandoned, fortress of Shilamad, standing on the summit of an isolated rock, at an elevation of nearly 7000 feet, forms the leading feature of the range.

The principal rivers of Azerbijan are the Araxes and the Kurl-Ozen. [See Araxes.] The Kurl-Ozen, the Amur of Polomar, and, according to Krennelt, the Gowan of Scipione (J. Kinko and Scipione, Geographia di Herodot., 12 ed., vol. 1. p. 519), rises to nearly a height of 9000 feet above sea-level in Kurdistan, eight or nine miles from the town of Sennine or Sennah. It is during part of the year only a shallow and narrow river; but from April to July the melting of the snow causes it to swell to a volume all day long, and horses and camels are established. It runs at first in a northern direction, along the coast of the Kafan-Kuh, till it approaches the town of Miannah: here it is met by the Garangoo or Karankoo (a river which has its source in the Sahaneh mountains eastward from the town of Miannah, divides its course, and flows to the Caspian,) forcing its way through a frightful chasm in the Elbrus mountains. It is there joined by the Shaliord, a river formed by two streams, the one (the Abbar, Elbaker, or Eschager) rising in the Elbrus mountains near Tabriz, and the other, called the river Sardar, from the vicinity of Kazwin. Having reached the lower country of Ghilan, the collective water of these rivers, under the designation of Lepard and Sardar-rud, or the White river (so named from its rapids and foaming appearance), forms a rapid and navigable course to the Caspian Sea, which it reaches near the town of Miannah. The road from Ghilan to Hamadan leads through the defile of Rudbar along the side of the chain through which the Kurl-Ozen descends to the low country, and is described by travellers as surrounded with grand and terrific scenery. (See the view of a bridge over the Kurl-Ozen in Malcolm's History of Persia, vol. i. p. 324.) Another pass over the Ghilan mountains, that of Moulla, leads through twenty miles of a difficult rugged defile, which Colonel Monteith describes as being infinitely stronger than that of Rudbar. That from Astara over the Talish mountains to Ardabil is also exceedingly steep and stony. Another pass over the mountains to the east of the Araxes is that of the Arvand, after which town, Rudbar: it leads along the Arvand river, which now forms the boundary between the Russian and Persian territories. Besides these two principal rivers of Azerbijan, we may mention the river Motan, which flows into the Caspian from within the N.W. and falls into the lake of Urmiah; the Yezid rather in the mountains between the lakes of Urmiah and Van, and joins the Araxes; the Adar, which fertilizes the plain around Tabriz, and the Sar, which waters the country around the town of Ghiilan, falls into the lake of that name; and the Karas Sea, or Derra Yurd, which rises in the Severian mountains near Ardabil, and falls into the Araxes.

The lake of Urmiah teemedformerly with fish. [See Araxes.] The rivers thence are those that constitute one of the most remarkable features in the physical character of Azerbijan. Strabo (xii. c. 12, t. ii. p. 458) says that in the time of the Sauata; that is, perhaps, the time when the saltness rises to the surface and crystallizes; they cause an itching sensation and gripes, against which oil is a remedy; if garments are washed in the water of the lake, they are found to be obviated by dipping them into sweet water. Elno Haukal also was aware of this peculiarity of the lake; its water, he says, is salt and bitter, and contains not any living creature. All round this lake are villages and hamlets, and the land around is a rich farming country. The lake, which is divided into two bars, the Katsando and the Kortsang, to Armî (Urmiah) two farsangs. The length of this lake is five days' journey by land, and by water, with a fair wind, a person may traverse it in the space of one night. [See Araxes.] The word farsang, see note 4.考查得 bets that the water of the lake of Urmiah is more salt than sea water, but remarks, at the same time, that it is perfectly clear. The same traveller estimates the circumference of the lake at 50 farsangs or 300 miles. It contains several islands or islets of considerable size, which are considered as a treasury by the celebrated Tatar conqueror Ulukul.

The climate of Azerbijan is described as healthy. The best during summer is considerable; the atmosphere is even during winter, generally very clear, but the days are intense, and the wind is very powerful. In the evening almost entire want of fuel, dried cow dung mixed with straw being the only substitute. Nevertheless, few of the inhabitants of either sex put on and retain any clothing when the cold season lasts, but Sir Robert Ker Porter observes that the women of Tabriz severely cover themselves with mantles without which two persons being found frozen to death in the next town, the tops of the higher mountains are covered with snow during nine months of the year. Colonel Monteith reports that in the town of Tabriz, which is situated on a plain, he was told by a person who had spent many years there, which time he spent there the thermometer never attained the freezing point, and at night it always froze: the greatest cold was 4 Fahrenheit. The same traveller observes, that near Lowor, a village situated on the Bross or river, in an elevated part of the mountains, the lake takes its rise, and is larger than the Caspian.

Colonel Monteith saw grapes cultivated in the perennially frozen lake's edges.
of a Persian prince; and at Kullat, in the same neighborhood, he found walnut and plane trees of gigantic height. Violent hail-storms are common. The soil of Azerbaijani, where it is cultivated, is very productive; the best yields from fifty to sixtyfold. It is fertilized chiefly by artificial irrigation. The plough is drawn by oxen. Travellers notice the cheapness of provisions, and the pleasing appearance of the gardens and orchards, which abound in delicious fruits.

In the Koołabooz mountains, which form part of the Kafqaz-Kuh, are iron, copper, and lead mines: "a treasure of riches, observes Sir Robert Ker Porter, which, if properly worked, would drain the country," is a monastic establishment (Travels, i. 268). In the same neighborhood salt-mines are noticed by Colonel Montet.

The most flourishing part of Azeri is that along the northern and western border of the lake of Urmiah, from Tabriz to the confines of Armenia. Here we find the towns of Shebester (or Shebaster), Tavou, Shar, Selim, Khoi, and Urmiah; the three last were already known to Abulfeda (see Schultens' index to his Vita Saladinii, &c., ed. Aserbejyanii), who fixes their geographical position. Selim, or Selmas, is now a town of about 2000 inhabitants, most of whom are Nestorian Christians. Khoi is described by Kinner as one of the finest and best-built towns of Persia: its walls are in good repair, the streets are regular, shaded with trees, and the doors of the houses are tastefully painted. The town of Urmiah, the supposed birth-place of Zoroaster (see Anquetil Duperron, Zoroaster, i. part ii. p. 5), is situated on the S.W. side of the lake to which it gives its name; its population is estimated at about 40,000 souls.

Maragha, a town of about 15,000 inhabitants, is situated in a low valley, at the extremity of a well-cultivated plain opening to the lake, from the east side of which Maragha is distant eight or nine miles. The place is famous in Oriental geography for the observatory that the astronomers Na'sir-eddîn (born a.d. 1200, died 1273), erected under the auspices of Nâjur, who, after putting an end to the caliphate of the Abbasides, fixed his residence at Maragha. The observatory is still standing, on a hill near Maragha; and close by, on the western brow of the hill, there is a curious excavation, forty-one feet in length and sixteen in breadth, and similar in many respects to the caves of Elephanta and Salsette, in India.

Of the time when it was made, as well as of the purpose for which it was intended, we are utterly ignorant.

The principal town of Azerbaijan is Tabriz—(situated, according to Browne, in 39° 4' lat. 45° 35' long.; see Ker Porter's Travels, i. 232; according to a number of observers, in 39° 2' lat. 46° 2' long.; see Journal of the Royal Geographical Society, in 57). The number of its inhabitants is at present about 30,000; but the extent of its ruins, which towards the east continue to a distance of three miles beyond the actual circumference of the town, shows that the place was formerly much more populous. Chardin, in 1658, estimated its population at 900,000 souls, which is perhaps exaggerated.

It's situation, near the confines of the Persian and Turkish dominions, sufficiently accounts for its present desolate condition, as the town has been subject to frequent conquests and devastations. It has, moreover, repeatedly and most severely suffered from earthquakes: in that of 1772, 70,000 persons are said to have perished; and in a subsequent one, 40,000. An earthquake occurred in 1668, when Sir Robert Ker Porter was there, in March, 1678. Whether, according to a prevailing tradition, Tabriz was founded by Zobaidah, the wife of Harun al-Rashid, remains doubtful, although it is certain that it was a favourite residence of the caliph. D'Anville and Sir William Ouseley (Travels, iii. 410) appear inclined to attribute much greater antiquity to Tabriz, by supposing it to be identical with the town of Oubris (or Tabris), mentioned twice by Pausanias (Perseis, c. 2), though with different degrees of latitude and longitude.

Miannah (also called Mianeh or Miane) is situated in a long and winding valley on the western side of the Kafqaz-Kuh. It was nearly ruined by the Russians in their late invasion of Persia, and seems to have been infested by a poisonous insect, named milheh, the sting of which is described as very dangerous. The road from Miannah to Tabriz leads over an extensive plain, called the plain of Aujan. In this plain, about six miles west of the village of Timmedzah, there is an eminence, where, on both sides of the road, are many large and upright bewn stones, arranged in lines; one row, on the right hand (coming from Miannah), appeared to Sir William Ouseley to have formed part of a circle now imperfect. These stones had already been observed by Chardin (t. iii. p. 13. Rouen edition of 1723: Mannert (vol. v. part ii. p. 162) is inclined to consider them as marking the situation of the ancient town of Gaiz, Gaize, or Gazan.

The ruins now called Kialah Zobak (i.e. the castle of Zobak, a tyrant celebrated in the early fabulous history of Persia), situated on a precipitous rock near the river Kafqaz, are supposed by Colonel Murzefeh to be the remains of the ancient Atrepatana. Near Lyula, in a fertile plain irrigated by the river Jagatty, the same traveller saw the ruins of a large town, about fourteen miles in circumference, which he, differing from Mannert, is inclined to consider as the ancient Gaze; and on the top of a steep and rugged mountain, near the valley of the Shahrud (the southern branch of the Kizil-Orein), he visited the remains of the residence of the chief of the Assassins, or Old Man of the Mountains.

The town of Ardishik has already been briefly noticed in a separate article. It is situated at the eastern descent of the high Sereil mountain range. Towards the north of the town there is a fertile plain with excellent pastures, but deserted, it is said, by a dangerous species of snake. It spreads as far as the mouth of the Araxes, to an extent of sixty furlongs in length and twenty in width. It is named Choval Mogam—in the plain of Mogam.

The mountainous country to the west of Urmiah and Selmas is inhabited by a race of Christians of a singularly savage and ferocious character. They are said to be the remains of the numerous Christian population which inhabited this province in the times of the Greek emperors, who retired into these mountains from the persecution of the Mohammedan conquerors. Of their institution we know little, for they live exclusively among themselves, and allow no stranger to enter their territory. They consist of four tribes, and are under the rule of a prelate, whose dignity is hereditary; and in the choice of the chief himself no law is allowed to interfere. The marriage of the chief himself is not allowed to marry. The family name of the present prelate is Marachmiin. He keeps up a sort of alliance with one Mustapha Khan Hukurao, a Kurdish chief, but owns no allegiance, either to the King of Persia, or to any other of the surrounding powers.


AZIMUTH, a corrupted Arabic word, which, when properly written is az-sam, the as being the article of, assimilated to the initial letter of the word to which it is prefixed; az-sam means 'a way, a road, a path;' also 'a part, tract, country or quarter.'

Azimuth denotes the angular distance of the horizontal point which is directly under a star from the north point of the horizon. Thus if S be the spectator, Z his zenith, Z N his meridian, N A the horizon, and Z A the vertical circle passing through a star *, then the angle A S N is his azimuth of the star, as measured in the angle made by the vertical circle Z A and the meridian Z N.

The only instruments in use by which the azimuth could be immediately observed are the theodolite and the altitude and the initial letter of the word to which it is known, the azimuth can be found by observing the altitude A* and solving a spherical triangle; for in the triangle whose
sides are the complements of the star’s altitude, the star’s declination, and the latitude of the place, the azimuth is the angle which is the complement of the declination, as may be seen in the triangle ZP ZP’, where ZP is the pole. Similarly the latitude of the place may be found when the altitude and azimuth of a known star are observed at the same moment. For in the triangle just mentioned, ZP and ZP’ are given, and the angle Z P; whence ZP may be calculated. When the azimuth of a star is found by means of an instrument adjusted by the magnetic needle, then the azimuth obtained (which needs a correction on account of the deviation of the needle from the meridian) termed the corrected azimuth. In this way the deviation of the needle may be found at any known place by observing the magnetic azimuth and calculating the true azimuth by observing the altitude of a star in the manner here described.

An instrument is said to be moved in azimuth when it is turned on a vertical axis, so that any line in it drawn through the axis points to the same altitude in the heavens, but not to the same azimuth. Similarly an instrument is moved in altitude when it is turned on a horizontal axis. An altitude and azimuth instrument is one which admits of both motions.

It is hardly necessary to observe that when the star is in the horizon, and when the azimuth is less than 90°, the [first] (or first) amplitude (which see); and when the azimuth is greater than 90°, (azimuth - 90°) is the amplitude.

An azimuth circle is a circle all the points of which have the same azimuth, a vertical circle. For azimuth COMPASS, azimuth DIAM, see those words.

AZINCOURT. [See AZINCOURT.]

AZINEPHORA, in entomology, a genus of the order lepidoptera and family geometridae. See 

AZOR, or AzoR, is commonly considered as a part of the Black Sea, but being a close sea, united to the Black Sea by a narrow strait of considerable length, and differing from it in many peculiar features, it is rather to be considered as an independent piece of water. There are several thousand shores of the Peninsula of Crimea in an east-north-east direction to the embouchure of the river Don. If the outlet of the Don, and the most western creek formed by the Pantid Sea, near Perekop, on the Isthmus of Crimea, are considered as its two extremities, it extends from west to east over 5° 30' long, from 33° 46' to 39° East of Greenwich. Its whole length, therefore, is upwards of 200 miles. From south to north it extends about 2° of lat., from 45° 20' to 47° 20', but its breadth varies in proportion to the number of islands and islets which lie in the long bay, which may be called the bay of Taganrog: it extends in length from the mouth of the Don to the low and sandy Capes Dolgava and Bolosorskaya, about 70 or 80 miles, with an average breadth of scarcely fifteen. The sandy shores of Taganrog and the bay, may extend to somewhat more than 100 miles from east to west, with an average breadth of 80 miles from north to south. This sea covers a surface of upwards of 14,000 square miles, and is more than half of Ireland, and double the Lake of Lagos, in area.

The Russians call it More Asovskoe (the Sea of Asof); among the Romans it was known by the name of Palus Mneta, or Maida, that is, the Lake Maida. This name is more appropriate than that of sea, for this sheet of water is a lake, and a shallow lake too. In the centre of the main body, where the depth is greatest, in the main basin, there are three, and but three, where an average only between six and seven; and this depth extends to the Strait of Yenikal, by which it is united with the Black Sea. Towards all the other shores, its depth decreases to five fathoms, and even four and a half. The Bay of Taganrog is much shallower: at the mouth of the Don, and is easily partitioned into two long bays, which may be called the bay of Taganrog: it extends in length from the mouth of the Don to the low and sandy Capes Dolgava and Bolosorskaya, about 70 or 80 miles, with an average breadth of scarcely fifteen. The sandy shores of Taganrog and the bay, may extend to somewhat more than 100 miles from east to west, with an average breadth of 80 miles from north to south. This sea covers a surface of upwards of 14,000 square miles, and is more than half of Ireland, and double the Lake of Lagos, in area.

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low strip the higher shores rise from 38 to 40 feet, and are composed of calcareous and marly strata. Sometimes they advance close upon the sea, as in the case of the cliffs on which the towns of Taganrog and Azof stand. The coast from the south of Dolgvra to the Strait of Yenikale exhibits a different character. Though the interior of the country presents the same monotonous aspect as the other steppes, the low shores are here much broader, and extend some miles into the interior. They have not a sandy soil, but are marshy, and sometimes a part of them is covered by the water of the sea. But as the bottom of the sea along this marshy tract is swampy, it is very productive in fish, and the whole coast is lined with the huts of the fishermen. In this low, marshy country pelicans in great numbers were observed by Bishop Heber.

The two peninsulas which, projecting respectively from the European and Asiatic continents, form the Strait of Yenikale, have some peculiarities: that to the east of the strait is a part of the island of Taman [see KUBAN], and consists of small strips of low land, which separate several salt-lakes of considerable extent from one another; these salt-lakes occupy the greater part of its surface. The peninsula to the west of the strait, which is now called the Peninsula of Kartch, from the town of that name, and once formed a part of the Greek Taurica Chersoneseus, exhibits, at some distance from the shore, a range of high land, which rises to 300 feet and more above the sea. These salt-lakes it likewise has salt-lakes. On both peninsulas numerous springs of petroleum are found, to which Pallas attributes the mud volcanoes which exist here.

The uninhabited shores of the Swas are low, and the land along the coast forms a dreary plain. No considerable place is situated on the shores of the Sea of Azof, except Taganrog. On the Strait of Yenikale stands the town of Kartch, which is considered having been the residence of the great Mithridates of Pontus in the latter unhappy part of his life. [See KARTCH.] (Pallas; Captain Joose; Rennell’s Atlas of Western Asia; Strabo, Cassub. p. 308, &c.)

AZOF, or AZOV, called by the Turks Asak, a town of southern Russia, and once a fortress of great celebrity, gives its name to the adjacent gulf of the Black Sea: it is situated on an eminence, washed by one of the principal arms of the Don, at a distance of 20 miles from its mouth, and 360 miles to the south-east of Ekaterinoslav, the capital of the Russian province which it belongs. In ancient times it was known to the Greeks under the name of Tanais; and in the twelfth century was under the dominion of the Poloufian princes, from whom it was wrested by the Genoese in the thirteenth century: the Genoese, who called it Tana, were driven out of it by Timur-leng, in 1392. Azof and its domain fell into the possession of the khans of the Crimea; and eighty years afterwards were reduced by the Ottomans. The obstinate contests for this important post, which took place between the Turks and Russians in the seventeenth and eighteenth centuries, terminated in its cession to the Russians in the year 1774. It has now lost all traces of its former importance: the town is become a cluster of filthy, miserable cabins, its fortifications are gone to decay, the branch of the river is choked with sand, and its once busy port has sunk into a deserted haven. The only attraction which it possesses at the present day is a fine and extensive prospect of the surrounding country, as far as the opposite coast of Taganrog, and the prominent point of the Chumberskaja foreland on the Asiatic shore.

Strabo (p. 493) says, that Tanaus was a colony of Greeks from the neighboring Bosphorus: it was ruined by Polemon before the time of the Greek geographer. Strabo also describes it as being at one time the common market of the European and Asiatic Nomadic tribes of this part of the world: the barbarians gave slaves and skins in exchange for articles of dress, wine, and other commodities, the products of civilization.

AZORES, or WESTERN ISLANDS, are situated in the North Atlantic, about 793 miles from the west coast of Portugal. They consist of nine islands in three distinct groups, lying in the direction of W.N.W. and E.S.E., and extending about 330 miles. The north-western group comprises the small islands of Corvo and Flores, distant about 114 miles from the central group, which includes Terceira, St. George, Pico, Fayal, and Graciosa. The third group, 69 miles to the S.E. of the second, is composed of the two islands of St. Michael and St. Mary, and the Formigas Rocks. Doubt still exists with regard to a small island seen by Pimento, the Portuguese navigator, who calls it Topo: it is supposed to be about four miles north of the S.E. point of St. George (Ponte de Topo), and to be about seven or eight miles in circumference. This island is not laid down in our present charts, but is said to have been seen by an English ship of late years.

The Azores have sometimes been called the Terreiras, from the name of that island: by some geographers they have been classed among the African islands, though there

can be no doubt that they belong more properly to Europe, from their latitude and proximity to that continent.

The history of these islands is obscure, and the exact date of their discovery uncertain: they appear, however, to have been discovered about the middle of the fifteenth century (Behm says in 1411) by Joshua Vanderberg of Bruges, who in a voyage to Lisbon was driven thus far to the westward by stress of weather. Boasting of his discovery on his arrival at Lisbon, the Portuguese government immediately fitted out an expedition and took pos-
English feet. The sides of this mountain produce the finest
wines, which, though inferior to Madeira, being much
cheaper, find a good market both in Europe and America.

On approaching the island the aspect is imposing from
the barren appearance of the mountains and the deep
rocky coasts, which nearly everywhere present high and
craggy cliffs; but a nearer view exhibits a most luxuriant
landscape of vineyards and corn-fields, interspersed with
orange and lemon orchards, and open pastures bounded by
woods.

St. Michael is the largest island, and the residence of the
bishop; but Angra, in Terceira, is considered the capital
of the group, and the seat of the civil government. Terceira
itself is one of the least fertile, and is often supplied from
the neighbouring islands; from the nature of its coasts
it may be deemed almost impregnable, every accessible
point being defended by batteries.

Among the Azores there is not one good port for
vessels of burden, all the anchorage being in open bays or
roads, from which ships are often obliged to put to sea at
a very short notice. The channels among the islands are
clear and deep, but strong currents set through them, and
the Florida or Gulf Stream is at times sensibly felt here.

From the nature of the land, vessels are subject to sudden
calms, squalls, and eddy winds by approaching too close to
the shore.

The trade of the Azores was formerly a monopoly of Portu-
gal, but it has been opened to other countries, whence
woollens, hardware, boards, stores, pitch, tar, iron,

c., are imported; in return for which wine and fruit are
the chief payments. From the mother country the pay-
ment of its imports consisted principally in domestic
indulgences, images of saints, sacred relics, &c.

The climate is mild and pure. A residence in these
islands has often been recommended to those afflicted with
pulmonary complaints, as they have a more equable tem-
perature than the northern parts of Portugal. In winter, the
weather is attended with heavy storms, is not severe, nor are the
bouts of summer oppressive, surrounded as these islands are by
an expanse of ocean. The Portuguese settlers natur-
ally introduced their own religion, manners, and customs,
which their almost undisturbed possession, and the

cult of the country to that of their own countries, have con-
tributed to maintain. Regularly built towns, handsome
churches, large convents and monasteries, and the
preva-

lence of white washing their buildings, are the same fea-

tures as are found in Portugal. The population of the
islands is computed to be under 200,000 souls.

Among the Azores the rise of tide varies from 4 to 7
feet, but it is much affected by the previous winds. The

coast is the westward.

About sixteen miles to the N.E. of St. Mary are seven
eight small rocks, occupying a space of nearly a mile; they
are called the Formigas, or Anils, the highest of them
is about forty feet above the sea, and they rise so abrupt-

ly, that within thirty yards of them there is no bottom with
fifty fathoms. Another patch of rocks, of about the
same extent, but only just above the water's edge, lies some
or two miles to the N.E. of the Formigas, called Tuleira’s Reefs.

The geographical position of the group is included be-

teen the parallels of 39° 37' and 39° 45' N. lat., and the
meridians of 28° 35' and 31° 15' W. long. The several
islands will be described under their separate names.

A ZOT, or AZOTHIC GAS, from a prevalent and in-
digeous destructive life, is frequently caused

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With hydrogen it constitutes the alkaline ammonia, already described; with chlorine and iodine it gives rise to dioxideinating compounds; with carbon it forms cyanogen, and with phosphorus is only to be regarded as a mixture of two chemical compounds, or with any of the metals. It enters into the composition of most animal matter except fat and bone; and though not a constituent of the vegetable acids, it forms a part of most of the vegetable substances.

Azoite by itself is fatal to animals, yet it is a most important constituent of the air, as serving to moderate the action of oxygen during combustion, and the too great excitement which that gas required unmixed would produce in the animal system. It is also said also by Majendie that animals will not live on food that contains no azote.

Although azote has not been decomposed, it is strongly suspected to be a compound body; and various facts have been cited in support of this opinion: thus, when mercury is negatively electrified in a solution of ammonium, the metal increases in volume and becomes a soft solid, which was supposed by Davy to be derived from the formation of an amalgam between the mercury and a metal furnished by the azote of the decomposed ammonium; when, however, this amalgam is no longer under electrical influence, it decomposes, hydrogen, ammonia, and mercury being produced. Davy further imagined that these changes were connected with the appearance of the azote of lime, which reproduced azote by combining with the supposed metal, and that one portion of the hydrogyned formed ammmonia by uniting with the azote, while the remainder was evolved in the gas, but this, as shown by Lusacc and theandar, these effects are produced even when water is not present, and they consider the azote as a compound of mercury, azote and hydrogen, the last element being combined with less azote than in ammonia. Professor H. 3. Auchmuty has examined the phenomena of the action of azote on substances, and the formation of that element of which he supposes to be the production of an adhesive attraction to the particles of the metal by the electrical action, by which the particles of liquid and aérom the bodies are entangled and retained, a kind of frawty compound being formed, and the fluidity of the fluid increased by the azote so united. (Lee vol. xxx. p. 12.) Buresius also supposes that azote is a compound; and although his views on the subject are extremely ingenious, they cannot be considered as conclusive: Davy attempted, but in vain, its decomposition by means of the action of potassium and the voltaic battery.

The following experiment, related among others by Mr. Faraday, is strongly in favour of the compound nature of azote, although the author confesses that he is not able to explain it. An electric current was passed between hydrogen gas and zinc foil and a piece of hydrate of potash were put into it. It is evident that the only elements present were zinc and potassium; with oxygen and hydrogen, forming the hydrogyned lime, the hydrogyned water, and the application of heat ammonium was evolved, as indicated by its action on moistened turmeric paper, placed in the upper part of the tube. In this experiment, then, ammonia, which is well known to yield azote by its decomposition, appears to have been formed without its presence, and if so, the azote must have been derived from the combination of some of the elements enumerated. At present, however, and until further experiments have elucidated the subject, we must continue to regard azote as an uncombined body, and to class it among the elements.

We shall now state various other modes of procuring azotic gas from atmospheric air, in addition to those already mentioned; and we shall conclude with noticing its production by the decomposition of some of the chemical compounds.

It may be separated from atmospheric air by the slow combustion, as it is termed, of phosphorus; thus, by merely exposing a stick of phosphorus, supported by a wire, in a bottle of air inverted over water.

For the exposure of the gas, iron filings, or iron burnings, in a bottle inverted over water, the metal oxidizes, and the azotic gas is left; this acts even more slowly than the phosphorus in the above experiment.

By the agitation of mercury and lead in a corked bottle, for a few minutes, a black powder is formed, which is probably a mixture of an oxide of lead with finely-divided mercury: azotic gas is left.

The passing of atmospheric air repeatedly over iron, or some other metals, hastened to redness in a tube.
The exposure of air to a solution of sulphuret of lime, or of sulphuret of potash in water: this operation is rather slow.

By mixing over water 100 measures of air and 80 measures of nitrogen gas, nitric acid is formed and absorbed, and about 80 volumes of the gas remain nearly pure.

A mixture of 95 volumes of hydrogen gas over water, and passing the electric spark through the mixture about 80 measures of nearly pure nitrogen gas are left.

By passing electric shocks repeatedly through atmospheric air, we can form a solution of nitric acid which is, however, formed and absorbed, and nitric acid is left: the operation is extremely slow. [See Nitric Acid.]

Nitric acid may also be obtained by decomposing ammoniacal gas by the action of nitrous oxide gas; nitric oxide gas is formed by nitric oxide gas and the action of potassium; by the decomposition of nitrate of ammonia with acid; this last experiment requires certain precautions. (Silliman's Journal, vol. xviii. p. 258.)

Lastly, when flesh is heated in a retort with distilled nitric acid, nitric acid is also obtained: but whether it is derived from the animal matter or from the acid, has not been satisfactorily ascertained.

AZOTUS. [See Aztec.]

The Aztecs is the name of a tribe who settled last in that part of America now called Mexico, or New Spain. They were living as a tribe about the year 1160 of our era, in Aztlan, a country situated to the north of the Gulf of California, on the west of the United States. The tribe, when they left Aztlan, availed himself, as it is said, of the chirping of a bird to persuade the men to leave their native abode. Having crossed the Rio Colorado, or Red River, at a point beyond 35° N. lat., they proceeded south-eastward to the river Gila, where they lived for some time, as appears from the ruins of certain ancient buildings found on the banks of that river. After dwelling in several places, they arrived at Huesoehuacan, or Culiacan, 24° 34' N. lat., 108° 1' W. long. Here they remained three years, formed their calendar, and constructed a wooden image of their god Huittolohchiti. In 1196 they arrived at Tula. From this place they removed, in 1216, to Zumpanco, in the valley, where afterwards the city of Mexico was founded. They were kindly received by the chief of that place, Tocapanexcatl; and after wandering some years about the lake of Texcoco, they finally settled at Acoccolo, a group of islands in the southern extremity of the lake. The chief of Colhuacan waged war against them, and in 1314 reduced them to slavery. In this wretched state they lived for nearly half a century at Tzcapan. A service which the Aztecs rendered to their masters in a war between the Colhuiscans and the Xochimilcians was the means of procuring them their liberty. (Clavigero, p. 166.) The Colhuiscans asked their masters for some victim to offer to their god, and that they were presented with a dead bird, wrapped up in a piece of coarse stuff. During the night the Aztec priest offered a bird, a hawk, in the altars placed instead of some odoriferous plants, and a knife of steel or obsidian. On the following morning they invited the Colhuiscans to the festival, and bringing out four prisoners whom they had converted, the priests sacrificed them in the horrid manner, and afterwards practiced the. Aztecs. The Colhuiscans, horror-struck at this scene of blood, ordered this cruel tribe to remove from their territory. The Aztecs then fixed their abode in Auctliut, and were able to separate themselves still further from their masters, proceeded to Tzitzocinco, a group of islands, which were situated in the western part of the lake. On one of these islands they found an eagle perched upon a nopal, which grew out of a rock, and they selected that spot for their permanent abode, in compliance with the oracle of their god, who gave them that omen as a sign of the termination of their migration. They built there a wooden teocalli or temple to their idol, and encompassed it with houses, giving the place the name of Tenochtitlan, the new home of the Aztecs. The name also on a later occasion, from the name of their god of war, Huittolochiti, or Moctli, from which the present name of Mexico is corrupted by the Spaniards. This event, according to the Aztecs, took place during the year of the rod of the three suns (11125 of our era). They divided their city into four quarters, each of which they dedicated to some particular god, to whose honour they built a teocalli.

In 1338 discard arose among them, and the tribe was divided and met with fortune, one part settling north-west of the teocalli of Moctli, where they built a town, called at first Xaltiocolo, and afterwards Tlatiocolo, which was conquered and united to Tenochtitlan under the reign of Axayacatl, about a.D. 1464.

The government of the Aztec was at first aristocratical. A body of twenty men of the most distinguished in the tribe presided over the affairs of the nation. In 1337 they altered this form of government, and chose for their king Acamapichtli, a noble chief of their own tribe. The latter divided the country into certain districts, each of which was placed under a governor, and this governor was the representative of the king. At his accession, the king of the Aztecs, ruler of the Tezcuintli, the second king of Mexico, it was established as a law, that four of the nobles should elect the king out of the collateral relations of the deceased monarch, so the exclusion of his children. This law continued till the destruction of the empire. Motecuzoma-Ihuacamitli, the first of that name, was the great legislator of the Aztecs. He also erected the great teocalli of Mexico, made several important conquests, and after the great inundation, which took place in 1446, ordered the construction of a magnificent dyke, nine miles long and six feet wide. In a succession of wars with the surrounding states, the Aztecs extended their dominion over all the country comprising the modern districts of Vera Cruz, Oaxaca, Puebla, and Mexico, according to Humboldt, from 18,000 to 20,000 square leagues.

Until the latter times of the empire, the royal authority was restrained within very narrow limits. The emperors were not allowed to undertake any affair of importance which could affect the community, without first obtaining the consent of the three supreme councils of the nation. These councils were composed of the nobility. With the power acquired by conquests the emperors gained every day more ascendancy over the nation, until, under the reign of Motecu-

sum II., the Aztec government degenerated into a complete despotism. When the king was chosen he was consecrated with many fantastic and superstitious ceremonies by the high-priests, after which he was compelled to fast rigorously for four days; then he went to war in order to procure prisoners to serve as victims at the festival of the coronation. When the king returned from this expedition he was solemnly crowned. The crown was a sort of masque, made of thin plates of gold and ornamented with feathers. The mantle was a square piece of cotton stuff, with stripes of deep blue and white colour. The principal servants of his household consisted of a grand-steward, and the treasurer of the jewels. The latter was at the same time the head of the custom-house, and exercised the police and auditing of the financial accounts. The king, the priest, and the other officers in the king's household were held by the first nobility. Other nobles superintended the cultivation of the lands belonging to the king, and had the usufruct of them. These noblemen acceded to the king during his absence, and each presented him with a nosegay on certain occasions.

When war had been decided upon against any nation by the king and his counsellors, an ambassador was sent to the chief of that nation, in order to interest him in the war and to propose the means of avoiding it. If the chief submitted to the terms proposed, peace was granted; if he refused, two successive embassies were sent, the first to the most influential men in the nation and another to the chief people. After that, the polishtes and the setting of gems. All the offices in the king's household were held by the first nobility. Other nobles superintended the cultivation of the lands belonging to the king, and had the usufruct of them. These noblemen acceded to the king during his absence, and each presented him with a nosegay on certain occasions.

The dignity of the last-named was the first in the state after the emperor. There were besides the princes and other officers, who were always chosen out of the nobility, gradually rose from the rank of the common soldier. A new saviour was at first employed in carrying the emperor in the most sumptuous and gorgeous of his masques. He was almost naked. When he entered, he carried a prisoner in chains, with a dower of flowers, which was the first sign of promotion in the army; when he captured four enemies
he received likewise a mantle having two stripes of black and yellow, and a fringe round. They had three military orders, called those of the princes, of the eagle, and of the oculto, or American tiger. The first was the most honorable, and its device consisted in a great crown having a broad bar across it, in front of which was a shield, and on that the points of the eagle, with its beak and tail pointed upward. The hair was usually cut short, and hanging from it as many tassels of cotton as the feast of valour he had performed. The defensive arms of the Aztecs were the shield, the cuirass, and the helmet. The shields were made in various forms, some round, others oval, one being covered with feathers, or of turtle-shell covered with plates of copper, silver, or gold. Some of these shields were large enough to cover their bodies entirely, and were made so that they could be folded together and carried under the arm. The cuirass was made of cotton quilted, and were arrow-proof. Their helmets were made of wood, in the shape of heads of tigers, serpents, and other animals. Their offensive arms were sling, club, javelin, spear, club, and club. They also made use of poisoned arrows. Their sword was a piece of some hard wood, three feet and a half long, the edge of which was formed of obsidian. The first blow of this weapon was terrible; but it was then rendered useless. The judicial system of the Aztecs showed no small degree of civilization. A supreme judge, called cihuaacoatl, decided definitely in all matters, both civil and criminal, and appointed inferior judges and fixed the revenues. A tribunal composed of three judges, called tlatcociatl, decided upon all the cases in the first and second instance. These judges sat every day to hear all the causes brought before them. In civil matters there was an appeal from this tribunal, but not in criminal cases. In every quarter or division of the city there was a certain magistrate elected annually by the people, called tecuiti. This magistrate judged in the first instance, and was obliged to give an account every day to the general council that had been chosen in his peculiar district. These tecuiti had other inferior officers under them. In every commune there were municipal officers elected by the inhabitants. There were also officers who patrolled and watched during the night. In matters of importance the judge took a Roman standard. Every month, or rather every twenty days, all the different judges assembled before the king, when all the causes still left undecided in their respective tribunals were finally settled. There was voluntary homicide, robbery of gold or silver, theft in the market-place, adultery, and incest, were the crimes visited with the utmost rigour of the law. Drunkenness in a young man was punished by hanging, and throwing the body of the deceased, if he was of a rich family; if he was one of the common people, he was made a slave for the first offence, and hung for the second. At the age of seventy, a man or a woman might get intoxicated with impunity. No advocates were in use among the Aztecs: the criminal himself conducted the defence of his own cause. No other proof could be adduced except witnesses, and in the absence of witnesses the criminal was allowed to clear himself by an oath. They swore by the sun: the form of taking this oath was to touch the ground with the edges of a leaf, and to their eagle to the earth. The right of private property was fully understood among the Aztecs. The lands were held by different tenures: some possessed them in full right, and were allowed to transfer them either to their relatives, or others who had an interest in them, and consequently could not dispose of them. The lands were apportioned among the king, the priests, the nobles, and the people. Of these the nobility alone were full possessors; the other three merely enjoyed them in common; and the produce was deposited in storehouses, from which all the inhabitants were supplied gratis according to their wants. In their paintings the lands of the king were painted red, those of the nobility scarlet, and those of the people black. The inhabitants of the conquered countries were obliged to pay a tribute in kind to the king, both of the produce of the field, and of their industry, and there was a storehouse in every town in which the produce of this tax was deposited, and proper officers were appointed to collect it. Slavery was admitted among the Aztecs. Slaves were either bought or persons became so as a punishment for certain crimes, but the son of a slave was in all cases a free man. The Aztecs had some imperfect idea of a Supreme Being, absolute and eternal, to whom worship was due. They believed him to be invisible and incorporeal, and therefore not represented in either painted or sculptured. They gave to this being the name Tlaloc. The names of Ipalnemoani, him by whom we live, and Tloque-Nahuas, he who has all in himself, were also given to him. But the knowledge of this supreme being was obscured by the adoration of the elements and spirits of nature. The existence of an evil spirit, called by them Tlacoteocolotolin, whom they supposed to be always employed in causing evil to mankind. The souls, both of man and beast, they believe at the time of death to ascend into heaven and to become immortal. According to their notions of a future state, there were three different mansions where men enjoyed a future state of existence. The first was the house of the sun, where the soldiers who fell in battle, and the women who died in childbed, were received. It was the daily occupation of the spirits of the departed warriors to hail the sun with hymns and dances on its rising, and to accompany it to the zenith, where it was met by the female spirits, who in like manner escorted the great luminary in the rest of its course. After a period of four years had elapsed, they were formed into birds, owls, or in other animal form, but with plumes, and ascended into heaven to breathe the pure ether, or occasionally descended on the earth, where their time was passed in singing and inhaling the perfumes and flowers of the earth. The second was the home of Tlaloc, or the abode of the god Tlaloc, the god of water, who was the place that the spirits of young children who had been sacrificed to that god, and of all others who had died of certain diseases, inhabited: in this place they were regaled with every sort of delicacy that could procure delight. The third abode was the Mictlan, or hell, where Mixtlanecuhtli and Mixtlanecuatl, the god and goddess of hell, reigned. This place was destined for those who died in any other way. In this place the departed spirits suffered nothing from the inconvenience arising from the complete darkness of the place. The Aztecs supposed that four successive revolutions had at different epochs destroyed mankind. These epochs were called ages or suns. The first was called the age of the earth, which took place 5206 years after the creation of the first sun, in which the giants, who had then dominion over the earth, were destroyed by famine, and those who escaped from this scourge were devoured by the birds. The second epoch was time, and happened 4804 years after the preceding epoch. At this epoch the world was destroyed by fire; and as the birds only could escape the general conflagration, men were changed into birds. A man and a woman were, however, in a cave in the earth, of the thickets of which the aloe was the chief, and which was like the mouth of a dragon; and an old man, who was the god of wind, happened 4010 years after the age of fire. In this revolution the world was destroyed by violent hurricanes, and the few men who escaped were changed into apes. The fourth epoch, Atontub, the age of water, happened 4008 years after the preceding revolution. In this revolution a universal deluge occurred, in which all men were changed into fishes, except a man and a woman. This privileged pair were saved in the hollow of a tree: the children of this tree were all born the same day, and had the same name; but every child learned a different language. The duration of these four ages, which, according to Humboldt's interpretation, is, as we have stated, 18,028 years, does not exceed 1477 years according to the interpretation of the text. (See Humboldt's lectures, vol. ii. p. 209.)

In all the European historians who have written on the antiquities of the Aztecs, the order of these revolutions is different; the age of water being placed first, and that of fire last. This is the order according to their reading the painting which represents this part of the Aztecs' history from left to right, beginning at the top, instead of reading from right to left, beginning at the bottom, which is the system adopted by the Mexican and Spanish writers. Alva Ixtlilxochitl, in his account of the conquest: he was a great grandson of the last king of Acolhuacon. His history of New Spain was in manuscript, in the library of the Jesuits at Mexico.
Besides the supreme being, the Aztecs worshipped innumerable divinities, the principal of which were thirteen. Every trade and profession had its particular god. They had besides their household gods, of which the king and the first noblemen had six, the inferior nobility four, and every plebeian two. These divinities were worshipped by offering to them, each day, of the victims, of their animals, of their dishes, of their fruits; by prayers, hymns, fasting, and other rigorous penances, in which the worshippers frequently shed their own blood. The human sacrifices were so horrible, that the simple recital of them, and the numbers of them, is of itself enough to quench the curiosity of the Mexican historians calculate that no less than 20,000 victims perished every year, but this must be a great exaggeration.

The priests were very numerous. Besides serving in the temple, they were employed in the most important business of the young people, in teaching them to read and write, and in forming and regulating the calendar, in composing hymns, and in other scientific and literary pursuits. The body of the priests was subject to two high priests, the Teocuitlatl, or divine lord, and the Izquidero, or high priest; both offices were elective: but it is not known whether the electors were the body of the priests themselves, or the electors who appointed the king. In Acolhuacan the high priest was always the second son of the king. (Clavigero, vol. ii. ch. vi. p. 39.)

There were also persons of both sexes devoted to the service of the gods, who lived in retirement, practising very severe austerities.

The Aztecs had two ceremonies, resembling the circumcisions of the Jews and the baptism of Christ. A boy child who was devoted by his parents to the service of the temple was consecrated by the priests by making an incision on its breast with a knife of obsidian. A child of either sex, four days after its birth, was taken by the midwife to the court of the temple, and there given to the care of a house, where a ceremony analogous to our baptism was performed.

The Aztecs attended very assiduously to the instruction of their children. In general, every child followed the profession of his father. From their third to their fifteenth year they were under the charge of their parents.

At the age of fifteen they were sent to the temples, or to some private school, to be taught those acquirements which their parents were unable to impart to them. The education of the Aztec youth is described in the Conquest of Mexico, book iii. chap. xiv. (Aguilar, Antiquities of Mexico, vol. 1.)

When a man and a female had arrived at a proper age, which for the former was twenty or twenty-two, and for the latter seventeen or eighteen, the marriage was contracted by the means of a female negotiator who was sent to the bride that the father of the youth had chosen for his son. This woman, accompanied by four other females, with lighted torches in their hands, carried the bride upon her shoulders to the house of the bridegroom. There the ceremony was repeated by the eldest brother, who, after fumigating her with copal, introduced her into the house. The couple were placed upon a mat by the fireside, and the female negotiator tied together the end of their garments, in which ceremony they made the marriage contract. An elderly man and woman, who, at the same time acted as witnesses to the ceremony, then delivered a speech to the newly married couple, and presented them with some food. Four days after they went to the temple to offer to their god the fruits on which they had slept.

The ceremonies which the Aztecs paid to their dead were not less singular. As soon as any one died, a certain master of ceremonies first covered the body with pieces of the paper of amate, and sprinkled the head with water; then he dressed the corpse in a garb of cotton and the particular god or gods who were the patrons of the profession or professions which the deceased had followed in his lifetime. Under this dress they placed a flask of water for the journey which the deceased was going to enter on, and then the body of the deceased was placed upon a coffin, in virtue of which he would be allowed to pass through different places in his voyage. The body was afterwards burnt, with all the ornaments, arms, instruments, and tools of the trade of the deceased, and with a tezcatlipoca, a representation of the deceased, of all the master of ceremonies was kindling the fire, some priests sung funeral hymns. When the body was consumed by the fire, they placed the ashes in a vessel, with a gem or more or less value, according to the means of the deceased's family, and this funeral urn was buried in a deep hole, and libations of pulque offered upon it for several days. With the bodies of kings and great lords, their priest, some of their wives, slaves, and other servants of their household, were killed and then burnt. Those who died of leprosy and other diseases, or before attaining the age of seventeen, were burned without burial; their bodies were placed in niches made of stone and mortar, sitting upon a chair surrounded by their arms, and wearing many valuable jewels. They had no appointed place for burying their dead; some burned them in their own gardens, and others in the teocuitlalli. The ashes of the kings were deposited in a special vault.

The manner adopted by the Aztecs of computing time shows that they had attained a certain degree of astronomical knowledge. They had a solar year of 365 days divided into eighteen months, of twenty days each. The year was divided into four periods of six months each. The length of the year was estimated at twenty days, and by this period the calendar was completed. The names of the months were: Tizoc, a stone, or a rock; Teopalli, a flint; Tepoztlan, a house; and Caltli, a house. The first year of this century was called first rabbit, the second second cane, the third third flint, the fourth house, the fifth fifth rabbit, and so on, till the hundredth ended with the thousandth rabbit. The second period began with the first red, and then followed second flint, third house, and fourth rabbit, and so on, till the hundredth ended with the thousandth rabbit. The second period was flint, house, rabbit, red, and that of the fourth, house, rabbit, red, and flint. The age was represented in their paintings by a circle formed by a serpent biting its tail, and forming four foldings with its body, which corresponded to the four indictions. In the centre of the circle they painted a face representing the sun, and round it the images of a rabbit or hare, a red, a knife of flint, and a house, and upon each sign the number of that sign expressed in dots or round. Their year, according to the computations of Clavigero (vol. ii. p. 231), began on the 26th of January, on the first year of the cycle; but every fourth year it was an intempetant one day, and on the last year of the cycle it began on the fourteenth of the same month, because of the thirteen intercalary days of the leap year. According to Humboldt (Researches, p. 132), the beginning of the Aztec year varied from the ninth to the twentieth day of January.

The day was divided into eight parts, four of which were for the rising and setting of the sun, and two for an passage across the meridian, corresponding to the third,
nia, fifteenth, and twenty-first hours of astronomical time. They ascertained the hour in the day-time by the sun, and at night by the stars. The names of different months were taken from some festival, or from some circumstance, which usually happened in the month, and the same was observed with regard to the names of the days. The days were all designated by a particular name. At the end of every xuthumspilli they held a religious festival, somewhat analogous to the sabbatical year of the Jews. On the eve of the festival they destroyed the furniture of the temple, and put it into the Clupigeras, where it was consumed and consumed by the fires. On the evening of the same day, some priests proceeded from the principal temple into a neighbouring mountain to kindle the new fire. The priests always set out in proper time to arrive at the place a little before day-light; a feather or musk in their hands. As they entered the houses with their faces covered, as the Aztecs believed that they would be changed into wild beasts if they witnessed the ceremony; the men stood in anxious expectation upon the terraces of their houses awaiting the result, for they fancied that if the priests did not succeed in obtaining the new fire the world would be destroyed. The fire was procured by means of the friction of two dry pieces of wood upon the breast of a prisoner, who was afterwards sacrificed upon the mountain. The wood was lighted to the duty, and, having lighted the fire in the temples, they distributed among the inhabitants a portion of this sacred fire.

The next thirteen days were spent in supplying their houses with new things, in the place of those which had been consumed.

The Aztecs had made some progress in the arts of social life. The monuments of architecture, sculpture, and painting which still exist, though very far behind that degree of perfection which these arts had obtained among ancient nations, are still impressive. The Aztec painters had no knowledge of perspective, nor of light and shade. Their designs are coarse and smooth; their figures are fantastic, and only drawn in profile; but they are remarkable for brilliancy and dignity of outline. Their sculpture exhibit a far superior degree of excellence. The Aztecs were also acquainted with the art of casting in metal figures of natural objects. Their mosaic, or rather works of embroidery, were admirable. The method they adopted was to glue feathers of different colours upon a piece of canvas, and then place it upon a tablet of wood or a plate of copper. They laid the feathers so even and matched the colours so admirably, as to give to objects thus represented a question of light and shade, which might with greater propriety be called mosaic, they made pieces of shells of different colours. This work was done by separate artists, each one of whom undertook a certain part of it, and then another artist arranged the different parts of the works of architecture, and painted, a question. The Aztec language is very regular in its construction, and abounds in words adapted to compliment. The word nolazomahuites iconaxtlicui, i.e., my esteemed lord and revered priest, is given to a Mexican in addressing a priest. This word is thus analyzed by Clavigero, no, my, tlazontli, estleem, mahui, revered, teopequixi, god-keeper, priest, tail, father.

The Aztecs cultivated the arts of oratory and poetry. Few of their moral, religious, historical, and dramatic performances have reached us. They had orators, who spoke on certain public occasions, such as on embassies, elections of kings, marriages, and other ceremonies. Specimens of these discourses have been transmitted to us by Father Sahagun in his Historia General de Nueva Espana. (See Aglio Antiquites of Mexico, vol. vii.)

The Aztecs were not acquainted with the art of alphabetic writing, but represented past events by means of hieroglyphics. They drew these signs into clay, burned them in the fire, or by such a part of them as was considered sufficient to convey the meaning of the painter. To record the events of their history they painted round the canvas the signs of the days of the year, and cut them by each other, representing the event which at that period had taken place. In writing any series of hieroglyphics, Humboldt says that their order was from right to left, beginning at the bottom of the page and proceeding upwards; but Clavigero says, that in the time of the Aztecs, when the lines of the canvas, he proceeded horizontally from right to left, if he began at the opposite superior angle, he continued perpendicularly downwards; if he began at the left inferior angle, he proceeded horizontally to the right; and particularly upwards when he began on the opposite inferior angle. We have seen a series of Aztec hieroglyphics.
AZU. DOMENICO ALBERTO. was born at Sassari, in the island of Sardinia, about 1744. He applied early to the study of the law, and paid particular attention to the maritime regulations, which have often been matter of dispute between nations. Azuni becoming known as a distinguished jurist, was made a senator and judge of the tribunal of commerce and of the admiralty of the king of Sardinia. In 1795, after the French had taken possession of Nizza, Azuni published his Sistema universale dei Principi del Diritto Marittimo dell' Europa, in which he endeavoured to reduce the maritime laws to fixed principles. He afterwards ceased his work, and published it in French at Paris, with the title of Droit Maritime de l'Europe, 2 vols. 8vo. 1805. The first volume, which is historical, is a recapitulation of the principal maritime regulations and usages of different nations, ancient and modern. Great warmth is here displayed against what is called the assumption of superiority by the British navy over the flags of other countries, and its disregard of equal rights on the sea, and especially of the rights of neutrals, which formed at the time a subject of loud complaint on the part of Bonaparte's government. The second volume discusses the maritime rights of nations in time of war. The author shows himself decidedly favourable to the practice of arming privateers, and seizing the merchant-vessels and property of persons belonging to an enemy's country, a practice which, although general, has been reprobated by several writers. This work recommended Azuni to Napoleon's ministry, who appointed him one of the commissioners for the compilation of the new commercial code, and entrusted him with the task of preparing a work on maritime law. In 1807 Azuni was appointed president of the Court of Appeal at Genoa, which city and territory had been annexed to France. He was afterwards elected member for the same legislative corps sitting at Paris. Here he published his Essai sur l'Histoire Générale des Polices de la Sardaigne, 2 vols. 8vo., accompanied by a map of that island, the draught of which was taken from the archives of Turin. The second volume is entirely occupied by the natural history of Sardinia. Azuni may be said to have been the first writer who made Sardinia known to the rest of Europe; but since the publication of this work other writers have given a fuller account of that interesting island. In 1809 Azuni wrote a pamphlet, in which he searched in the Roman literature of the ancient and modern time. This engaged him in a warm dispute with those who maintained the prior right of the Italians to the discovery, and especially with the orientalist Hager, professor in the University of Paris, who refuted Azuni's book. Azuni published his Dictionnaire de Maritimes et des Navires, which is much esteemed, and of which a new edition was published at Leghorn in 1822. He continued his functions in the tribunal of Genoa until the fall of Napoleon, when, like many others, he lost his situation. He then withdrew first to Nizza, and afterwards to his native island of Sar- dinia, where the late King Charles Felix appointed him judge of the consulate of Cagliari, and librarian to the University of the same city. He died at Cagliari in January, 1827. He also wrote several other works, among which were: Memoire pour servir à l'Histoire Marine des Marines du Roy de Sardaigne, and Memoires pour servir à l'Histoire Maritime des Naviculaires de Marseille. Azuni was member of several academies. (Biografia degli Italiani Venti.)

AZURITE, a term used by Phillips to denote lapis lazuli, under which name this mineral is most generally described by mineralogists. [See LArgile.] It is different from azure-stone, by which name lapis lazuli, the talc-murium of painters, is sometimes known.
B, which occupies the second place in the Hebrew alphabet, and those derived from it, is the medial letter of the order of labials. It readily interchanges with the letters of the same organ. 1. With v, as habare Latin, ovare Italian, to have; habladus Latin, overse Ital. I had. In Spain, and the parts of Spain, corresponding to p, it is always found in words which in the kindred languages prefer the v. This peculiarity has been marked in the following epigram by Scaliger—

\[\text{Hand borev antipea metal Vauvoso vossan.}\]

The modern Greeks pronounce the b, or second letter of their alphabet, like a v, thus \(\text{Baulek, Kalileus,}\) is pronounced by them \(\text{vanile}\). When they write foreign words, or words of foreign origin, it is not unusual for them to express their sound of b by \(\nu\) (m p). It appears probable that the ancient Greeks pronounced the b more like the Spaniards and modern Greeks than we do; for they wrote the Roman names \(\text{Farvo, Virgilus, thus—Baffro (Barron), Burgilus (Birgillus).} The Macedonian Greeks wrote \(\Phi\alpha\gamma\rho\iota\sigma\varsigma\) thus—\(\Phi\alpha\beta\iota\sigma\varsigma\) (Philippus).

2. The interchange of m and b takes place very frequently, especially when they are followed by the liquids l or r. This interchange is not two Greek common with other languages, the uniformity soft. Melis, in the same language, means honey, and \(\beta\alpha\iota\tau\iota\) signifies 'I remove the honey from the comb.' So \(\beta\rho\iota\tau\alpha\), the Greek for mortail, and \(\sigma\mu\iota\rho\iota\) the Latin for to die, contain a common root. An interchange of a similar nature marks the difference between the Greek and the Latin: \(\text{molubdes, lead, and the Latin plumbum.}\) If an m in the middle of a word be followed by either of these liquids, the m is retained, but is strengthened by the addition of a b, just as a d inserts itself between n and r. Instances are to be found in nearly all languages: \(\text{mas-emera}, \text{mid-day, was reduced by the Greek ear to meiemorhia; the Latin cumularium, to heap, has been changed to the French combler; the Latin numerarius, number, to the French nombre.}\) This interchange is of too frequent occurrence to be the result of mere chance, and the manuscripts examined are of far greater age than can be accounted for. Thus, if a Latin word contain the letters \(\text{min},\) after an accented syllable, we find in the corresponding Spanish term the syllable \(\text{bra or bra: homine Latin, hombre Spanish, man, femina Latin, hembra Spanish, female;} \text{famina (middle-age Latin), hambre Spanish, hunger.}\) (See Alhambra.) This corruption arises from a previous interchange of the \(\text{n into an r, as in dncoee Spanish, deacon, discer in French. The Spaniards have carried this corruption even further, by changing the Latin suffix \(\text{tudina (tudor) into tumbra or dumbr: consetudinae Latin, costumbre Spanish, coutume French, custom; multitudinae Latin, muchedumbre Spanish, multitude.}\) 3. Interchanges with p. Of this the Greek \(\text{pe-leu, pelleu},\) the name of the English language by the Welsh and Germans presents sufficient examples. 4. With f. Thus the term \(\text{lirf-wards appears to have meant originally, lirf-wards, body-wards, from the German in, body. The word was probably introduced by the Hanoverian Dynasty.}\)

5. Before a vowel in the old Latin language became s in the more common forms of that language. Thus, in the old writings of Rome, we find \(\text{dunums, wood, dianem, dam, war, &c. in place of bonum, beliu, belheu.}\) The Roman admiral Dullus is sometimes called Bilius; and in the same way we must explain the forms \(\text{bas (bass) twice, and siguini (sini-gini) twenty (sinamny) compared with thir, &c.}\) 6. Before a vowel has taken the form of a soft g or j in several French words derived from the Latin: \(\text{combiare (a genuine Latin word), chanter, French; rubus, rage, French; Dibson, Dynum; so rough has for its parent some derivative of ruber, and rage is from com.}\) 7. In some dialects of the Greek language it has been as perfectly as in English the sound of an m before the initial r, where the other dialects omit it: as \(\text{bradon, a rose, &c.}\) Again \(bl\) and \(gl\) are interchanged in dialects of the same language. Thus \(\text{balones Greek, and glane Latin, are related words, as in English,}\) but in Latin, signifying 'soft' or 'softly, called \(\text{magnus Greek, which has the same signification. For the forms of the letter B, see Alphabet.}\)

In the Sanskrit alphabet the letter \(\text{b is placed in that division of the consonants called mutes, and in that subgroup of the mutes called labials. The subdivision of labials contains four letters—p, ph; b, bh; and m. The p and ph are called hard (sord) consonants; the \(b\) and \(bh\) are called soft (sonant) \(bh\) is the aspirated sonant. (See Journal of Education, N.o xvi, p. 341, &c.)}\) B (in music), the seventh note of the diatonic scale, answering to the \(\text{si of the Italians and French. In Germany it is always signifies B-flat, B-natural there taking the name of B, but also stands for base.}\)

**BAAL** (from the root יָבָל, be governed or possessed) means literally lord, owner; hence also Ahabed. Baal, with the definite article, יָבָל, the Baal, means the deity of the Phoenicians and Carthaginians, whose complete title seems to occur in a Maltese inscription, יָבָל הַבַּת הַבַּת. Malkereth Baal Toor, i. e. King of the City, Lord of Tyrus. (See Philosoph. Transact. T. 34 pl., l. 1.) The name Malkereth is a contraction of יָבָל הַבַּת, king of the city.

Hence it appears likely that Baal and Malche are names of the same idol. The cruel worship of Baal, together with that of Astarte, was frequently introduced among the Israelites, especially at Samaria. As the Greeks, Germans, and other nations frequently form the names of men by combining them with the names of God (e.g. Gotthob, Gotthold, Parchegoll, Geierlos, Georgius, Yehuda, &c.), so the Phoenicians and Carthaginians frequently formed names by composition with Baal, as Ethbeal (יהבאל, with Baal, the name of a king of the Sidonians (1 Kings xvi. 31), whose Josephus calls יָבָל יָבָלָא, from יָבָל וָבָל. i. e. with his Baal; Jerubabel, יָבָל, i. e. Baal well beheld it. Hannibal is written in Punic inscriptions יבאל ויבאל. i. e. grace of Baal; Hasdrubal ייבאל ויבאל, i. e. help of Baal.

In Hebrew also many names of cities occur, compounded with Baal; as Baal-Gad, Baal-Hammon, Baal-Thamer, &c. The statues erected to Baal were called Bealim, יָבָלִים. The temples and altars of Baal were strikingly built on the tops of hills under trees, and also on the roofs of houses.

The worship of Baal gave employment to a numerous priesthood, who were invested in, sacrificed children, danced round the altar, and if their prayers were not heard, cut themselves with knives and lances till the blood gushed out upon them. By this self-sacrifice, the priests expected to excite the compassion of Baal, and thus to obtain the object of their prayers.

The general character of Astarte idolatry renders it likely that Baal meant originally the true lord of the universe, and that his worship degenerated into the worship of a powerful being in the material world. Sanchonatius states that the Phoenicians worshipped the sun as יָבָל אִישׁ אִישׁ, 'the only lord of Heaven,' called באלגידע, באלדטימ (i. e יָבָל הַבַּת, lord of heaven); and that this Baalism was the Greek Zeus, Ζεύς. In the Septuagint, Baal is called Βαλας, Hercules, called in the Phoenician language יָבָל הַבַּת. On-cul. i. e. light of all. Some mythologists have asserted that Baal was Saturn (compare Somers on Καλλίστα, i. 19), others have considered Baal to be the planet Jupiter. A supreme god might easily be composed of the names of other nations, hence arose this variety of opinions.

The statement of Herodian (i. 3; and Capitul. vet. Macrin.) that the Phoenicians and Syrians worshipped the sun, is confirmed by the name of the name of Baal together with that of the sun on Carthaginian gems and Palmyrene inscriptions, יָבָל נַבָּל, יָבָל נַבָּל. The name of Baal occurs frequently with epithets, as
Beal, Brith (βαλ, βρίθ) i.e. lord of confederacy, or God of trustees, like the Greek Δεξιος, and Latin, Deus Fidius. Beulbeulba, (βαλ, βρίθ) i.e. lord of bliss, corresponds to the Greek Δεξιος, δέξιος, Zeus the fly-chaser (Pausan. v. 14): compare Hercules δέξιος.

Beal Per (βαλ, μέγας) is the Priest worshipped by the Moslems on Mount Beal, from διστέντιον.

To worship Beal signifies frequently, in the phraseology of the Jewish writers of the middle ages, to practise the rites of the Christian religion. Rabbi Joseph Ben Jonas Ben Meir tells us, in his Chronicles, that Chlovis forsook his God, and became a mark for this -delight. And that a high place was dedicated at Paris for Beal Donysius, i.e. the Cathedral of St. Denis. Rabbi Joseph informs us also that the Friar Vincent, of the sect of Beal Donici, i.e. the Dominican Friar, was a Sina unto the Jews in Spain about a.d. 1430.

For further information on Beal we refer to the commentators on Judges, Kings, Chronicles, Isaiah, Jeremiah, Hosea: J. E. Blenner, De Rituo Beael exordium, Ling. 1723; Frommman, De Cultu Deorum ex Omnotheria illustris, Altior, 1745, 4to et seq.; Müller, Religion der Cathagen, Kopenhagen, 1812, 8vo; Serr. ad An. i. 729; Lingua Plancte Deus Bai dictatur, Isidor. Origin. viii. 11; Creutzer's Symbolica, s. 248, &c.; Russell Preparatio evangelica, i. 16; Preparatio Sathanica, etc.; Orelli, has mentioned it in his dictionary, in the Halliche Encyclopedia; Winer's Bibbacheus Rector Wurtzburch; Classical Journal, vii. p. 233.

BAALBEC, or BALBEC, called by the Greeks Helopolis. The City of the Sun, is in Coelesyria, in 36° 1' N. lat., and 35° 38' E. long., according to a map of the Holy Land and Syria, published in Pococke's Travels in 1745. Its situation, however, ought to be elsewhere about 34° 1' 30" N. lat., and 36° 11' E. long., according to Major Rennell. (See his Preparatory to the Correct Geographical Map of Western Asia, vol. i. p. 75.) Major Rennell makes the distance from Tripoli 389 geographical miles, and from Palmyra 109 geographical miles.

Balbec signifies, in the Syrian language, the City of Beal, or the Sun; the Greeks, changing it into Helipolis, as in many other cases, translated the Oriental name, which the Romans appear to have retained, until it was again changed into its original Syrian name, Balbec.

The city is pleasantly situated on a rising ground, near the north-east extremity of the plain of Boctas, and immediately under the mountain-range called Anti-Libanus. This plain extends from Balbec almost to the sea, in the direction of N. E. by N. to S. W. by S.; the width appears to be a few places more than four, and not in any less than three leagues.

The rivers which water the plain are the Litane and the Bardouni; the former takes its rise in Anti-Libanus, a lake to the north of Balbec; the latter rises in a valley at the foot of Mount Litaneus, near a village called Zakely (Wood and Dawkins) or Zahala (Bruce), about eight hours' journey south-west of Balbec. This river joins the Litane in the plain, about an hour's journey from a village called Barallia. Pococke and De La Roque mention also another river called Ais, which they suppose to be the ancient Orentes. It rises in the same plain about eight hours' journey north of Balbec, near a village called Ras. (Pococke's Travels, vol. ii. p. 350.) There is also a great increase of water from a fine fountain close by the city walls, called Ras el Ain, the fountain's head. These streams are augmented by several constant rills from the melting snows of Libanus, and form the river Casimoth, which enters the sea near Tyros. This abundance of water must at all times have rendered Balbec a delightful residence.

When the city was in a flourishing state, it is probable that on its coins it was joined with Tyre in connection with Palmyra, and the traffic with India, may have been very great, and possibly the source of its wealth, and the means of erecting those edifices, the ruins of which still exist. The ruins in front of the great temple, of which a part, if not all, was destroyed by the Saracens, were most probably assigned for Fora (markets or places of business), and are therefore provided with suitable shady porticos and exedras, on which the merchants could conveniently transact their business

* Rouss in commonly written — Baal, Bala, Bala, Bala, and Balaah (Aen. Wood and Dawkins, Bruce, De Keerke, Rouss, &c.)
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In the few instances in which the accentuation given in the above Index varies from that given in the body of the work, that in the Index has been adopted after deliberate consideration.
B.

the modern Greeks pronounce the b, or second letter of their alphabet, as β, thus βασιλευς, βασιλευς, is pronounced by them βασιλεβις. When they write foreign words, or words of foreign origin, it is not unusual for them to express our sound of b by μ (mp). It appears probable that the ancient Greeks pronounced the b more like the Spaniards and modern Greeks than we do; for they wrote the Roman names Varro, Virginius, thus — βαρρος (Barron), βιργινιος (Birgilias). The Macedonian Greeks wrote βαρρος thus — βιργινιος (Bilipuss).

2. The interchanges of m and n takes place very frequently, especially when they are followed by the liquids l or r. Thus the letters are very nearly always of the same pronunciation:

- 

mētrikos νευρατικος

- 

μινυστήρ 

M目前, in the same language, means the same, but in Italian, and blatto signifies 'I remove the honey from the comb.' So bro-tos, the Greek for mortal, and mor-i, the Latin for to die, contain a common root. An interchange of a similar nature marks the difference between the Greek melodes and melodes, lead, and the Latin plumbeum. If an m in the middle of a word be followed by either of these liquids, the m is retained, but is strengthened by the addition of a μ, thus διμοσίων, inserts itself between m and r. Instances are to be found in nearly all languages: mētrikos νευρατικος, a still greater change. Thus, if a Latin word contain the letters m, after an accented syllable, we find in the corresponding Spanish term the syllable br or br: homine Latin, hembre Spanish, man; feminin Latin, hembre Spanish, female; feminis (middle-age Latin), hembre Spanish, hunger. (See Almanias.) This corruption arises from a previous interchange of the n into an r, as in dicoons Greek, deacon, diacre in French. The Spaniards have carried this corruption even further, by changing the Latin suffix tūdina (tudo nom.) into tūmbra or duambr: consuetudine Latin, costumbre Spanish, custome French, custom: multitudine Latin, muchedumbre Spanish, multitude. Interchanges with p. Gr. Thus the pronunciation of the English language by the Wedes and Germans presents sufficient examples. With f. Thus the term life-guards appears to have meant originally, leb-guards, body-guards, from the German leb, body. The word was probably introduced by the Hunserean Dynasty. But before a vowel in the old Latin language became b in the more common forms of that language. Thus, in the old writings of Rome, we find domus, good, durus, hard, war, &c. in place of bonas, belles, belium. The Roman admiral Dullius is sometimes called Bius; and in the same way we must explain the forms bus (due) twice, and sogni (due-gni) twenty (seventy) compared with thirty, &c.

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In the Sanskrit alphabet the letter b is classed in that division of the consonants called mutes, and in that subdivision of the mutes called labials. The subdivision of labials contains four letters — p, ph; b, bh; and m. The p and ph are called hard (sord) consonants; the b and bh are called soft (romant); bh is the aspirated sonant corresponding to ph the aspirated sord. (See Journal of Education, No. XV. p. 341, &c.)

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When the city was in a flourishing state, it is probable that the advantages arising from its commerce with Tyre, as connection with Palmyra, and the traffic with India, may have been very great, and possibly the source of its wealth, and the means of erecting those edifices, the ruins of which still exist. The ruins in front of the great temple, of which theidea shall almost certainly be correct, are substantially designed for a market or business, and are therefore provided with suitable shady porticos and exedrae, in which the merchants could conveniently transact their affairs. The history of the place itself is very obscure; but from two Roman inscriptions of the time of Antoninus Pius, there can be no doubt that it was then a place of some importance, under the name of Helipolis. These facts are also confirmed by several coins of Roman emperors.

At what time and by whom the city was first founded is wholly unknown; even the epoch when the temples, which from their style must be attributed to the Roman period, were erected, is matter of much uncertainty. The only historical authority for building the temples of Baalbec, is that of John of Malala, from whom we learn that Eliaus Antoninus Pius built a great temple to Jupiter at Helipolis, near Libanus in Phoenicia, which was one of the wonders of the world. (Joan. Malal., Hist. Chron. lib. i.)

The temple of Helipolis was, according to the life of this emperor, does not mention the temple of Helipolis.

From the reverses on several coins of the Roman emperors, we find, first, that Helipolis was established as a colony by Julius Caesar; and again, at a future period, having received part of the veterans from the fourth and eighth legions in the time of Augustus, was eventually made Julia Italicus by Septimius Severus (Ulpianus, lib. i. de Cenab.) and we accordingly find its temple, for the first time, on the reverses of this emperor's coins.

At the same time also that we meet with Helipolis on the coins of Julia Domna and Caracalla, vows in favour of that emperor and empress are inscribed on the pedestals of the columns of a great portico ('marked A on the plan), forming a sort of Propylæa to the extensive inclosures which we conjecture to have been used as Fora by the merchants. Several coins which appear to belong to Helipolis are preserved in the British Museum.

The representations of the temples at Helipolis, impressed on these coins, are not always exact with regard to the form of the temple they mean to represent, as will probably appear in the following instances: — On the reverse of the medal of Septimius Severus, we find a temple, in form like the great temple of Baalbec, and having, like it, ten columns in front with the legend COL. HEL. I. O. M. H. Colonia Helipopolitana Jovi Optimo Maximo Helipopolitano. On the reverse of another medal of the name, with the same legend, there is a temple in perspective, having indeed the same number with both the great and the smaller temple of Baalbec, but with only six columns in front, which is less than the number in either; and the same is repeated on the reverse of a medal of Caracalla. On the reverses of some medals of Philip the Eider, and his wife Otacilia, we find the same temple with a temple of a different form and size, bearing no resemblance to any of the temples of Baalbec. Upon the reverse of another medal of the same Philip, we find a fourth temple, which seems to belong to Helipolis, by the inscription, J.U. Aug. Fel. Const. C. Aug. Felix Helipopolitana.' (Wood and Dawkins, Ruins of Baalbec.) On the reverse of this coin, there is a flight of several steps leading to an area, in which is a temple of the form of the great temple of Baalbec. This is all probability an awkward and certainly an incorrect representation of that great temple, with the courts and the steps leading up to them. The propylæa do not appear to

(Copper coin in the Brit. Mus. Actual size.)
have been then built. On the reverse of the coin of Otacilia there is however a tolerable representation of this portico or propylaeum, varying in some particulars from the restoration by Mr. Wood. It would therefore appear to have been added after the first coin was struck.

Abulfaragius says that Constantine built a temple here, and that he abolished a custom of this place which permitted the promiscuous use of wives. (Greg. Abulfaragii Hist. Compend. Dynast., p. 83.) We learn also from the Chronicon Paschale, that while Constantine closed the temples of the pagans only, Theodosius destroyed some, and converted the great and famous temple of Heliospolis into a church. (Chron. Pasch. Olymp. celssxxii., p. 363.) "Church history gives little more than the names of some bishops and martyrs of Heliospolis, and informs us that when Mahometanism prevailed, this part of the country fell under the government of the caliphs, called the Qaumisades, an ignorant and inerous race, during whose time we find only that Balbec was a considerable city." (Herbelot, Bibliothèque Orientale.)

In the annexed cut we have given a plan of the city, principally from the drawings made by Wood and Dawkins, and corrected from a more recent survey by F. L. Cassas.

The area inclosed by the walls contains the great temple, with its courts or fora; and the smaller temple, or perhaps basilica, which is in the best condition of all the buildings. There is also a very singular and unique circular temple, of which we have given a view, and a curious column, on the highest situation within the walls, which possibly may have been a clepsydra, or water-dial.

By reference to the plan of the city, it will be seen that A is the portico or propylaeum, which formed the grand front to the buildings B C D. The length of this building is 260 feet, and it is adorned with twelve columns. The columns, with their pedestals, are about 57 feet high; and the whole height of the order, with its styet and podium, is, according to Mr. Wood's restoration, about 93 feet. On the pedestals of these columns are the inscriptions mentioned above.

B—Hexagonal court or forum, to which the portico A leads, 190 feet long by 266 feet wide.

C—Quadrangular court or forum, 405 feet long by 460 feet wide.

D—Great temple, to which the approach was through the above-mentioned buildings. The length of this building is nearly 290 feet, in width 160, with ten columns in each and nineteen at the side; and when perfect was, from the ground to the top of the pediment, 120 feet high, the columns, with their pedestals, are 71 feet 6 inches high, and the thickness of the flutings 4 feet 9 inches.

E—The smaller but more perfect building, which has eight columns in front and fifteen on the flank, is 725 feet in length, 118 in width, and 102 feet from the base of the columns to the apex of the pediment. The columns of the portico, which is pilastered, are, with the exception of the two columns at each flank.

F—The circular temple, which is 32 feet in diameter internally, and 63 at its greatest width externally, with a portico about 50 feet in width.

G—A Doric column (Wood and Dawkins). Possibly calls this a Tuscan column.

H II, &c.—The city walls, said by travellers to be about 4 miles in circuit, but, according to the plan given in the "Survey of Rome" by Wood and Dawkins, they will be found to be something less.

I—The city gates.

The rudeate plan of the baths of Caracalla, at Rome (see Cameron's "Italie des Romains," vol. i., with plates, London, 1772) (see infra), will at once show the number of the great enclosures or courts, with their portices and exedras, very much resemble the open halls and exedras of the great baths there. Both, though applied to different buildings, appear to have been intended for the same purpose—the protection of the occupants from the weather. Travellers who have visited Balbec appear ever to have considered for what purpose such vast inclosures were made, we have hazarded the conjecture that they were formed for the purpose of fora, where must have been assembled a wealthy community, such as Balbec certainly was, if the magnitude of its ruins may be taken as evidence of wealth.

Wood, however, thinks that the buildings round the enclosures served as schools and lodgings for the priests of the sun. Strabo informs us that a similar was on such high terraces at Heliospolis, in Egypt. (Strabo, lib. xvi. p. 806.) The grand entrance to these buildings, which we have called fora, is through the portico or propylaeum A, the ascent to which was by a magnificent flight of forty-eight steps, according to Wood and Dawkins: the propylaeum was a portico or tribunal, or a podium or low wall, at the extremity of which are two square exedras decorated with Corinthian pilasters. The front is represented on the reverse of the coin of Qosmin. The Parks appear to have turned this building into a theatre, and to have heightened the walls of the exedras, finishing them with a battlement after the Turkish fashion. The front of the propylaeum and the adjoining building was called the Castle by the inhabitants at the time h Mandrolis visited Balbec in 1745. (Mandrolis, Journey from Aleppo to Jerusalem, p. 134.) The shafts of the columns employed in the courts of the fora were of one piece of granite, and above the entablature there was an attic divided at intervals by short pilasters, forming pedestals for statues, a series of arches being placed over the exedras of the entrance. In every part of these buildings also there were niches decorated with columns and adorned with statues and busts.

The great temple appears, from the plan of the city, to have been a peripteral pentaeadron temple, having ten columns in front and nineteen on the flank, the columns being seven feet ten inches in diameter, and eight feet one inch apart, except in the central section, where the columns are the same as on the portico. The walls of the exedras, as shown by F. L. Cassas, are on the plan ("Voyage Pittougeois de la Syrie," with an internal arrangement of columns (see Plan). It appears that a certain Thoed, in 1030, cut seven columns of the great temple, and carved thereon the great wonders of Balbec (Fauvreille, l. c., 14.) Subsequent travellers mention but nine columns, with an entablature over them; and Voleur, in 1785, saw only six standing. The shafts of these columns
consist of three pieces; united so exactly, that the blade of a knife cannot be inserted between the joints.

The smaller building, called by Mr. Wood "the more entire temple," but which appears in some respects to resemble an ancient basilica, is very near the large temple, but built on a lower level, the bottom of the basement of the great temple being nearly as high as the top of the basement of the smaller edifice. The site of these buildings being very uneven, the basement on the south side is raised considerably, with a solid foundation of large stones. This building is peripteral; the columns are also pyramidal, and the portico is dipteral with a pseudo-inter-columnation before the antae of the pronaoi. We conjecture this building to have been a basilica, from the similitude of its internal arrangement to the basilica in the Forum of Pompeii; it has, among other features of the basilica, the raised platform at the end, with the vaults below it and steps descending into them. In the plan we have shown this building with an internal arrangement of columns, on the authority of M. de la Roque and Pococke; the former mentions them very distinctly, and the latter has restored them on the plan published in his work. Mr. Wood, however, thinks that this internal arrangement is much more modern than the building itself; Wood and Dawson, therefore, do not give the columns on their plan, although they were of opinion that they were placed there when the building was turned into a church. The roof appears to have been arched; and as there are no windows in the sides, we must conclude that there were openings in it. The columns of this building are also made of three pieces of stone, joined very accurately together without cement, and strengthened with iron cramps fixed into a socket worked in each stone. Most of the bases had two sockets, one circular and another square, corresponding to two of the same shape and dimensions in the under part of the shaft; some of the largest of the circular cramps were a foot long and a foot in diameter. The basalt of Damascus has carried away large quantities of iron from these ruins at different times, and have left marks of their attempts to gain, on the iron in the columns which are still standing. This method of putting together the shaft of a column contributes very materially, in a dry climate, to the strength and durability of a building, and in the most perfect building at Baalbec a very remarkable instance of its utility is shown: a column has fallen against the wall of the cells with such violence as to drive in a stone of the wall without in the least disuniting the joints of the shaft. Maunder, speaking of this building, says, that it strikes him with an air of greatness beyond anything that he ever saw before, and is an eminent proof of the magnificence of ancient architecture.

The circular building may be considered unique. Travellers have called it a temple. It is of the Corinthian order, with niches on the exterior of the cells, and decorated with twelve columns, one at each angle, and a portico, which has a flight of twenty-one steps in front. From the two lateral columns of the portico commences the circular peristyle of the building (see Plan). The entablature of the principal portico is carried in a stile, so that the pentalobe is curved on the perpendicular face, and sweeps in an elegant line from column to column, the centre of the curved architrave being bedded on the circular wall of the building. This edifice is decorated in the interior with the same order of columns, all of the Corinthian order, consisting of niches with pediments, and between each there is a single column with a small portion of an entablature over it; the roof was a dome probably open at the top, like the Pantheon in Rome. This building has been converted into a Greek church called St. Barbé.

The order most frequently used throughout these buildings is the Corinthian. The Ionic occurs in the interior of the circular building only; and in the niches which decorate the interior of the fora, as well as in the building which we have called the basilica, the Composite is employed. The niches are decorated with columns and pediments, and form the principal feature of these edifices in their ruined state; they were intended for statues and busts, the pedestals for which still remain. If we examine De la Roque, there were quantities of statues and busts with inscriptions on their pedestals, but so much obliterated, that only one could be distinguished. Pococke saw in the fora two busts in mezzo-relief, one of which was very singular, and a young person with bull's horns coming out of his back: we should rather think that these were meant for wings. By a reference to the plates in Wood and Dawson's Ruins of Baalbec, it will be seen that these edifices were highly decor- rated with sculptured ornament very well executed.

The single column on the hill stands on the south-west part of the city, where the walls enclose a little of the foot of Anti-Libanus. This column is raised on a square foundation five feet seven inches high, consisting of steps; the shaft and capital are composed of eighteen stones, each about three feet thick (high); about ten feet below the capital the shaft is surrounded by an ornament, consisting of five festoons very finely executed. On the top of the capital there are two tiers of stones, which form a small basin about three feet deep; from this basin there is a hole cut through the capital, with a semicircular channel nine inches wide and six inches deep, down the south side of the column and to the base. (Pococke's Travels.) This column is not peripteral, but forms an irregular curve. (See the drawings in Pococke's Travels.)

Without the walls there are also several ruins. The most remarkable is a Corinthian column in the plain, about twenty feet long and one foot in circumference. It is called Hamouliade: the shaft consists of fourteen stones, each about three feet thick (high), and stands on a base of five steps, six feet three inches high; on the north side there is a square compartment, probably for an inscription, but no traces of any now remain. To the south-east of the famous temple there are fragments of columns of red granite, and some signs of the foundation of a building. There is also a Mohammedan sepulchre, of an octagonal form, on the south-east of the city, on the way of Damascus, the dome of which is supported by granite columns of the same kind, which were probably brought from the ruins to the south-east of the great temple. These columns are about twelve feet long and five feet in circumference, so that each column was probably sawn into two parts: the granite is of a most beautiful kind, with large spots, and is finely polished. (Pococke's Travels in Syria, &c. vol. ii.)

There are also some ruins at a village a league from the city, on the road to Tripoli, among which is a wall building forty feet in length. (Bruce's Travels in Syria.)

The city walls appear to be a confused patchwork, put together in haste; with the rough stones are fragments of capitals, entablatures, and reversed Greek inscriptions. The walls are from five to six feet thick at intervals, and the towers at intervals (see Plan). The gates are also built in a rude style, with the exception of one on the north side, where there are the ruins of a large sub-basement, with pedestals and bases for four columns, in magnificent taste, and of a
In contemplating these ruins, we are struck by the immense size of the stones employed. They are not the twain enormous dimensions. On the west side of the basement of the great temple even the second course is formed of stones which are from twenty-nine to thirty-seven feet long, and about nine feet thick; under this, at the north end of the temple, there are three stones which alone occupy 182 feet nine inches in length, by about twelve feet thick; two are sixty feet, and the third sixty-two feet nine inches in length. (See Pococke's Travels in Syria.) Mr. Wood thinks that the word τερατος, in the Chronicon Paschale, refers to these stones. The material is a white granite, with large shining veins like gypsum. (Volney.) This stone abounds on the spot and in the adjacent mountains; quantities are brought on the backs of the Arabs. On the sea coast it is used for the masts and the rigging, and for several other purposes of a more ornamental character. The chief employment of the inhabitants is pastoral;—the wild, uncultivated hills, rising like the downs on the south coast of England from the sea, afford good pasture for one part of the year, and at the other the inhabitants conduct their flocks to the pastures on the island of Mount Ida. The voyager, passing between the island of Lesbos and the main, may often see their broad-tailed sheep grazing among the ruins of the once large and prosperous city of Assos. The neighbouring country abounds in very extensive caverns in the mountains, which abound in birds of prey. The curlew, or quercus, is an abundant species, which is uncommon in Europe. There is also a species called quercus argila, a dwarf tree, seldom exceeding five or six feet in height. The large cups that contain the seeds of this species of oak are well known in commerce; they are used for tanning, and form a principal article of export from all this part of Turkey. The few of the inhabitants of Bab who attend to this branch of trade carry their valuable (as the product is commercially termed) in the gulfs of Adramytte and the Indian Ocean. It is formed by two projecting angles of the Asiatic and African continents, or, more properly, the two angles of Arabia and Abyssinia. The Arabian shores a cape of moderate height projects, which, on all our maps and charts, is called likewise Cape Babyl-Mandeb; the much more elevated land on the African side runs in a straight line. Opposite Cape Babyl-Mandeb the coast of Abyssinia may be distant upwards of fifteen or sixteen miles, and here both continuations approach near one another and form the strait. Within the strait, but much nearer to the Arabian shores, is an island, called the island of Perim; this name is also adopted on our maps. The strait to the south of this island is called the Gulf of Babyl-Mandeb, and to the west of it the Large Strait. The Little Strait is most frequent by vessels, on no other account but because its moderate depth allows anchorage, if circumstances render it necessary. The breadth of these straits is between two fathoms; on one small shoal it is only seven fathoms. This strait is four miles wide, but contracted by sound water extending from the Cape of Babyl-Mandeb to a small island about a mile from it, called Patel Ilos. The island makes an indentation on the north side of the strait towards the extreme point of the cape; it is a little more than a mile and a half from the cape towards the S.W., and just opposite to it towards the S.E. It is inhabited. On the S. W. side it has an opening into an excellent harbour or cove, which affords shelter against nearly every wind, and a good anchorage from four to six or seven fathoms water. This island is from four to five miles.
long. The Largé Strait is from nine to ten miles wide, and to the south of it, near the coast of Africa, are eight small islands, or rather rocks, called the Eight Brothers. In the midst of these the Sound of the Rocks, within a hundred fathoms of line; but close to the Eight Brothers along the coast of Abyssinia and nearly the Island of Perlina, the depth of the sea varies from sixteen to thirty fathoms. The Eight Brothers are of moderate height, rocky and barren, and here the Sound of Perilina (of N. lat.) projects a great way from the main land, which here is so low, that when seen from a distance it has the appearance of an island. It rises to no great height, but is rocky and scraggy on its southern side, and extremely barren.

The hills are generally very strong in this strait, but they vary in direction according to the prevailing winds. [See Red Sea.]

The name Babel-Mandeb, which in Arabic signifies 'the gateway to property to the strait,' and the appellation might naturally arise in consequence of the dangers to which small and light vessels are exposed in a narrow sea, surrounded by rocky shores, and subject to frequent gusts of wind. But this name appears on our maps and charts to be given with less propriety to the Cape, which probably has some different name among the natives. (Niebuhr, Lord Valentia, Capt. Horshensburg.)

BABER or BABUR, with his complete name Zahir-Ed-Din Mohammed Baber, the celebrated founder of the Mogul empire, was born in March, 1483. His empire in Hindustan was born on the sixth of Moharrum, 10. Mag 888 (14th February, 1483). His father, Sultan Omar Sheikh Mirza, a great-grandson of the celebrated Babar, was governor of that province situated on both sides of the river Sirr, the Jassaries of the ancients. The revenues of this province, according to a remark made by Baber himself, may suffice, without oppressing the country, to maintain three or four thousand troops. Baber was in his twelfth year when his father died (9th of June, 1494). He succeeded in securing possession of his paternal dominions, though opposed by his paternal uncles, Ahmed Mirza, the son of Samarqand and Bokhara, who, after a short and unsuccessful campaign, retired to his native place. Baber, the sovereign of Bakhdsh, who, after the death of Ahmed, succeeded him on the throne of Samarqand, but died, after a short reign, in January, 1495. Baber was equally successful in rescuing the towns of Asfera and of Khedend from the aggression of other hostile neighbours, but he was unable to recover the country and town of Uratoppa, which had likewise formed part of his father's dominions. The history of Baber's reign till the twenty-fifth year of his age is less distinguished by any remarkable event, than the continuance of the sanguinary wars with the power of India. In the year 1503, Shebendi Kuli Khan, who had thus far been the most powerful of all the other Conquests, advanced against Baber, and, with many small forces, under the command of Tushir or Japkhach, the sovereign of Khapshak, conquered not only Samarqand and Bokhara, but also the countries of Ferghana and Uratoppa; and Baber, after wandering for nearly a year as a fugitive among the mountains that separate Ferghana from Hisar and Karatagin, quitted his native country and resolved to try his fortune in Khorsan (1504), which was at that time held by Sultan Hassain Mirza, a powerful and distinguished prince of the family of Timur. Baber, with less than three hundred followers, and only two tents, Baber, with the Album Madenah, (of Oto, in lat. 39° 20′), arrived at the village of Tepem. He did not receive from Sultan Hassain Mirza the support which he had anticipated; but a number of Murodes in the service of Khosru Shah, one of his opponents, held Hisar, Khtulan, Kuder, and occupied Bakhdsh-aban. quitted the service of that chief, and, by declaring for Baber, forced Khosru Shah himself to submit to him. Thus strengthened, Baber marched towards Kabul, which was surrounded to him after a short siege (October, 1504). He advanced towards Babur, forced Khosru Shah himself to submit to him. Thus strengthened, Baber marched towards Kabul, which was surrendered to him after a short siege (October, 1504). He advanced towards Kabul, which was surrendered to him after a short siege (October, 1504). He advanced towards Kabul, which was surrendered to him after a short siege (October, 1504). He advanced towards Kabul, which was surrendered to him after a short siege (October, 1504). He advanced towards Kabul, which was surrendered to him after a short siege (October, 1504). 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Towards the conclusion of his reign, Baber endeavoured to promote the prosperity of his empire. He made or improved public roads, with resting places for travellers at suitable distances; he caused the land to be measured, in order to have a scale whereby to fix the taxation; he planted gardens, and introduced fruit-trees from abroad into the several provinces of Hindustan; and he ordered a regular line of post-houses to be built from Agra to Kabul.

Baber died at the Charbagh, near Agra, on the 26th of December, 1539, and was succeeded by his son Humayūn on the throne of the empire, which is commonly, though improperly, called that of the Moguls. Baber was undoubtedly one of the most distinguished sovereigns that ever sat upon an Asiatic throne. In his character we perceive an uncommon portion of benevolence, good-nature, and frank gaiety; and joined with this, he possessed the leading qualifications both of a statesman and a military commander in a high degree. Of his literary accomplishments and general information, the autobiographic memoir written by himself in his native language, the Jaghati Turki, gives us a most advantageous idea: there is perhaps no other work of this kind in existence which affords a more accurate notion, not only of the life, character, and way of thinking of his author, but of the whole aspect of his age, and of the persons and objects surrounding him. (See Memoirs of Zahir-ud-din Muhammed Baber, translated by John Leyden and William Erskine, London, 1846, 4to.)

BABRIANA, a genus of Cape plants belonging to the natural order Irideae. It derives its singular name from Baberan, by which the Dutch colonists call these plants, because their round subterranean stems are greedily eaten by baboons. It differs from Gladiolus in its round, leather-coated seeds, and in the flowers having the tube of Ixia, and from Ixia in having the irregular limb of Gladiolus. Fourteen or fifteen species are known, among which are some of the handsomest of the Cape bulbous plants, as they are commonly though incorrectly called. Of these all have narrow, plaited, sword-shaped leaves, rising from a cormus which is covered with rigid, netted, brown scales; this part, which is sometimes called the bulb, sometimes the root, but which is in reality a short, underground stem, is propagated by one or more young buds near its point, which shoot up at the season of growth, feed upon the old corms till they have sucked it quite dry, and by that time become new cormi themselves elevated upon the point of the original one. In this way the underground corms gradually rise towards the surface of the earth, and afford an elegant vegetable progression which by some has been adduced as extremely remarkable, but which is in fact, if the phenomenon be rightly considered, precisely analogous to the progression of the stem of a tree into the air by the formation of fresh branches year after year.

The flowers of babiana are yellow, purple, and even scarlet, of considerable size, and extremely handsome. They are produced in perfection, provided the plants are so cultivated as to be exposed abundantly to light, warmth, and plenty of moisture, even in a situation that is cold and dry while in a state of repose. It is in the plains of the Cape of Good Hope that these plants are found, where they are exposed for two or three months, at the most, to rain; and then, during the summer, the year, they are buried beneath a soil so dry, that even succulent plants themselves can scarcely contrive to exist upon it.

The following species will illustrate the genus:

Babiana sulphurea, one of the commonest species, grows about a foot high, with oblong Blair that attains, on one side, a spike of four or five flowers. The latter are about two inches long, of a pale sulphur-yellow, with a short sky-blue tube and eye; the segments are oblong, slightly wavy, nearly equal in size, and spreading nearly equally round the short column. The stamens are yellow, with a short skirt, the agama is sky-blue: the latter very narrow and channelled.

BABBINGTON, WILLIAM, a distinguished physician, was born in June, 1756, at Portglenone, a village on the Ban, in the county of Cumber, in the north of Ireland. His father was an army chaplain, and belonged to one of his sons should be brought up to medicine: his choice fell upon William, and he, after acquiring the usual elements of general education, was apprenticed to a medical practitioner in London. After the expiration of his apprenticeship, he proceeded to London to complete his medical education. Being provided with an introduction to Mr. Frank, surgeon to Guy’s Hospital, he became his usher at that institution. Thence he went to Haslar Hospital, and afterwards, for a short time, to Westminster Hospital. Having made a most favourable impression with respect to his talents, application, and steadiness during his studies at Guy’s Hospital, he was, upon the occurrence of a vacancy in the office of apothecary, summoned from Winchester to enter upon the duties of that situation, at an earlier age than it is customary to intrust so responsible an office to any one. Soon afterwards he was selected to assist Dr. Saunders at the hospital in his lectures on chemistry. This contributed to render his name known between the walls of the hospital; and while still there, by the advice of some friends, he purchased the valuable collection of minerals which had belonged to the Earl of Bute—the finest perhaps which at that time existed in England. This had much influence in determining him to take up the study of mineralogy. Upon obtaining possession of his purchase, he proceeded to class the minerals and to catalogue them. He also divided the cabinet into several portions, which he disposed of at different times. In 1795 he published a Systematic Arrangement of Minerals, founded on the greatest consideration of their chemical, physical, and external characters, reduced to the form of tables; which was preceded by a smaller work.

In 1797 he resigned his office at Guy’s Hospital, and having obtained the degree of Doctor of Medicine, he commenced private practice as a physician in Freeman’s Court, Cornhill, in the City of London. Soon after he was elected one of the physicians to Guy’s Hospital, where he had continued to lecture on chemistry, in which he was joined by Mr. William Allen. In 1799 he published his New System of Mineralogy, which may be considered a continuation of the former work. In 1801 he published a Symposium of the Course of Chemical Lectures. In 1805, previous to leaving Guy’s Hospital, he had been a Fellow of the Medical Society of London, and exerted himself zealously to promote the advancement of the science of medicine—which is the chief object of that society. Having removed from Freeman’s Court to Basinghall street, he became the neighbour and friend of Dr. Latta, the zealous supporter and benefactor of the Medical Society, whose efforts in its behalf were ably seconded by Dr. Babington.
From this time he rose rapidly in public estimation as a physician, and his practice having greatly increased, he removed his practice and his family in 1817, to a house, in 1817, "with a view to enable Count Bourbon, of whom he had been a pupil, to publish his elaborate monograph on the corals of lime, Dr. Babington in- 
vited him to join him, and associated with him in his medical practice. From such small beginnings sprang the Geological Society; and among the names of those by whose care and watchfulness it was supported during the early period of its history, that of Dr. Babington must always stand con- 
sidered, not alone as our teacher, but as his devoted, disinterested friend in their joint work in the prosecution of mineralogical knowledge.

A subscription was opened, and the necessary sum readily 
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As a man, he acquired the affection and esteem of all 
among whom he moved, with whom he had occasion to transact business, or to whom he gave his professional at-
tendance, by his kind and gentle manners and the warmth 
of his heart. Ever eager to promote merit, and to render 
the practice of a useful art the means of higher felicity, he 
was in his late years, in reality, the more valuable, as he 
was the more influential, of the junior members of his profession forms one of the brightest 
parts of his character. One instance of this, among many 
others, was his conduct towards the late Dr. Gooch, who 
was not unfavourably disposed to the study of mineralogy 
and geology, and gave an impulse to the study of mineralogy 
and geology, the beneficial effects of which will long be 
regarded. Though he had a large family, few of them 
outlived him; but among the number are two sons, both members of the medical profession.

For further particulars we refer to the forthcoming Memo- 
ir of His Life and Writings, by his son-in-law, Richard Bright, M.D., Fellow of the Royal College of 
Physicians, &c. &c.

BABIROUSSA is sometimes called the horned hog by 
travelers, from the great length and curved form of its 
upper tusks, which pierce through the upper lip and grow 
upwards and backwards like the horns of the ruminants: it 
is met with in many of the islands in the western Pacific, 
and in the Moluccas, Molucca, on the *Baboon (Hela-
apalus, Cuvier), in zoology, a genus of quadrupeds, or 
four-handed mammals, which forms the last link in the 
chain that unites the simian, properly so 
called, with the lower animals. The zoological or technical 
name of this genus, Cyncocephalus, is a Greek word 
employed by Aristotle and other ancient writers to designate 
the common species of Egypt and Arabia, the C. ham-
dryas, of modern writers, and is plainly derived from 
the marked resemblance which the head and face of these ani-
mals bear to those of a dog. A dog, in this sense, is the 
most distinctive characteristic of the genus. The origin of 
the common name baboon is a subject of greater doubt. 
Skinner and other British etymologists are content with 
rewriving it from our vernacular word babo, without consider-
ing the fact that the Garewar of India and the Papago 
people call babo, the Babocon, and the Italian babino, are 
manifestly so many different modes of writing the same word. A more 
probable origin of all these terms appears to be the Italian 
Babuino, from which is likewise derived, according to the 
view of Alloveca, the vulgar Latin word papio, ap-
plied by the writers of the fifteenth and sixteenth centuries 
to these animals, and which is itself a diminutive of the 
common Italian word babo, which answers to our papo.

The baboons differ widely from the other groups of 
quadrumanous animals, and may be readily distinguished 
at sight even by those who are not much in the habit of 
observing them, yet it has been found not a little difficult to 
form such a simple definition of the genus as will compre-
end all the species properly belonging to it, and also dis-
tinguish them from those which appertain to the proximate 
genera, Mysurus and Ceropetous. This difficulty, which 
is indeed common to most of the genera of quadrupeds, comes 
from the fact that the zoological characteristics of these 
mammals is by no means immediately distinguished by the 
characters which more immediately identify the baboons from the other simiae, consists in the great pro

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longation of the face and jaws, and in the truncated form of the muzzle, which gives the whole head a close resemblance to that of a large dog, and from which, as already observed, an approach to the Bohor or baboon was called. The term baboon was given in Abessinia, to the huge anthropoid apes which are of a larger size and with thicker black and red hair than the mountain apes, and which are the largest of all African apes. The baboons are tall, with long black hair on their heads, a great deal of hair on their arms and legs, and a body like that of a large dog. Their heads are large, and their ears are small. They have a long tail, and their legs are long and slender. They are very strong and active, and are able to run and jump with great speed. They are also very intelligent, and are able to learn and understand a great deal. They are very social animals, and live in large communities. They are very powerful, and are able to fight with great strength.

The baboons are very shy, and are afraid of strangers. They are also very curious, and are always looking for new things to do. They are very fond of meat, and are able to kill and eat animals of all sorts, including large game. They are very savage, and are able to attack and kill humans. They are also very clever, and are able to use tools and other objects to help them in their work. They are very intelligent, and are able to learn and understand a great deal. They are very social animals, and live in large communities. They are very powerful, and are able to fight with great strength.

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opportunity of fastening the door and securing him once more in his place of confinement. Nor is this a solitary instance of the kind which women can exert over the passions of these savage animals: generally untractable and incorrigible whilst under the management of men, it usually happens that baboons are most effectually tamed and led to do more than ordinary obedience in the hands of women, whose attentions they even appear to repair with great affection. Travellers sometimes speak of the danger which women run, who reside in the vicinity of the situations where these animals inhabit, and affirm that the negroes on the occasions of their excursions, carry with them a boy, and carry off to their fastnesses: we are even assured that certain of these women have lived among the baboons for many years, and that they were prevented from escaping, by being shut up in caves in the mountains, where, however, they were plentifully fed, and in other respects treated with great kindness. It is to be observed, however, that these accounts rest upon authority which is by no means exceptional: credible and well-informed modern travellers do not relate them, and even their older and more credulous predecessors give them only from hearsay.

In addition to the mental and physical characters already mentioned, the baboons, besides the great development of their canine teeth, are distinguished by having a V-shaped fold upon the under jaw, in which respect they differ from the apes and cercopithecous, and resemble the macaques and semiincipient. They are furnished with large callouses and capacious cheek pouches, and their tails, always shorter than those of the monkeys, are carried erect in the manner of savages, and then hang perpendicularly, like that of a horse which has not been truncated. Those species which have very short tails carry them upright and erect. The brows of these animals are protuberant and form large swellings on each side of the nose; and though this character is more strongly marked in the mandrill and drill than in the other species, yet all exhibit it in a greater or less degree. It is only since the labours of MM. Geoffroy and Cuvier, and the true descriptions of the character of the different groups which compose the family of quadruped of our possession, that we have become acquainted with the geographical distribution of these animals, and the habitats of the different genera. We have thus learned that the quadruman of the African continent are as distinct from those of Asia in their zoological characters, as they are in the localities where they inhabit; in fact, among upwards of fifty species of simiae belonging to the old world, there are only two known instances of an Asiatic genus occurring in Africa, or of an African genus occurring in Asia. On the shoulders of the true baboons, the hair on the neck and shoulders of the male, are furnished with a mane of long shaggy hair, which is wanting in the females and young; and the cheeks of both sexes have small whiskers directed backwards, and of a greyish colour. The tail is rather more than half the length of the body, and is terminated by a tuft of long black hair; the skin of the hands, face, and ears, is of a very dark violet-blue colour, with a paler ring surrounding each eye; the whole of the upper eyelids are white, as in the Mangabeys (Cercopithicus fuscigenus). The nose projects a little beyond the upper lip, the nostrils are separated by a small depression or rut, as in the dog and other carnivorous animals, and the callouses are less strongly marked than in most other species of this genus. In the adult animal the muzzle is extremely prolonged in comparison with the skull, which is proportionately contracted and flattened: the young on the contrary have the region of the brain much larger in proportion to the length of the face, the head considerably rounded, and in form resembling that of the adult monkeys (Cercopithecus).

The Chacma, so called from the Hottentot word TChacuma, the aboriginal name of this baboon in South Africa, is one of the largest species of the present genus, and when fully grown, is equal in size and much superior in strength, to a common English mastiff. This animal inhabits the mountains throughout the colony of the Cape of Good Hope, and associates in families more or less numerous. They are still found on the Table Mountains above Cape Town, though they do not exist in such numbers as they appear to have done formerly. Still, however, they pay occasional visits to the gardens at the base of the mountains, and with such skill and caution, that even the most watchful dogs, as we are assured by Professor Lichtenstein, cannot always prevent them. "Although," he remarks, "Killie somewhat exaggerates the regular and concerted manner
which their robberies are carried on, yet it is very true that
they go in large companies upon their marauding parties,
removing to the bales, and taking the hugest possible
quantities of the produce of the country. They are usually
found in parties of ten, and upwards, much oftener in
greater security. Their common food consists of the
bulbous roots of different plants, particularly of the babana;
[see Babianna, p. 228]: these they dig up with their fingers
and peel them with their teeth, and heaps of the parings
are frequently seen forming a dark splotch on the surface of
the babanias. The babanas delight to sit and look round them.
In ascending the slopes or passes in the mountains of
South Africa, which are frequently steep, narrow, and dangerous,
the babanas are often met with, on the sides of the road being
basking themselves on the rocks: if not attacked, they
scatter up the sides of the mountains, yalling and screaming;
but if fired at and wounded, they sooner get beyond the
scope of the gun, than they commence rolling down the
mountain sides, and presenting a more formidable, yet
less dangerous, an appearance of their fire-arms. The old males abandon
their station in the rear, and placed themselves between
the troop and their pursuers, so that it was found very difficult
to procure specimens of either the females or the young.
When they first observed the traveler approaching, they all stood
up on their hind feet for the purpose of examining them;
the old males, having driven away the females and young,
remained in this position till the near approach of the traveler.
A small party of the younger males, of whom they were
suspicious, followed at a distance, the old males having
scattered up the sides of the mountains, making them resound with their shrill clamour.
The Arabic name of this animal is robaab or robb: the Abyssinians call it
derriss, according to Peere's orthography, or arram, ac-
ting to the Greek orthography of the same.
The name of this species in the ancient Ethiopic or Gea,
the learned language of the Abyssinians, is tot or tooa.
The figure of this animal, in a sitting posture, is common
upon the ancient monuments of Egypt and Nubia; and the image of it is to be
seen on the monuments of Memphis and Hermopolis, and mummiess containing
the embalmed body of the animal are still found among
the catacombs. Strabo, indeed (p. 812), in mentioning Hermo-
polis, says that the Babonian in the vicinity of Memphis paid
divine honours to the repuse: yet though the geographer
makes use of very different names, and though these, or
reality, apply to very different animals, there is good reason
to believe that they both refer, in the present sense, to the same
species; no quadribon is ever found represented upon
the sacred monuments of ancient Egypt, except the baboon, nor have the images of any other
species ever been dug up in searching for antiquities. One or two names, no doubt, belonging to subjects, such as the procession of a returning conqueror, in
which monkeys (cercopithers) are introduced, as for
instance the painting discovered at Thebes by the late Mr.
Griffith, which represents the crowned baboon: a baboon is represented riding
on the neck of a ctenophorus; but this was manifestly intended merely to fix the honours of the country or people whose subject the triumph was meant to commemorate, and by no means indicates a par-
ticipation in the divine honours which were paid to the baboon.
Neither does the female ever appear to be repre-
sented as an object of worship; all the figures and images
seem to be those of males, as is proved by the mane which
covers the neck and shoulders, and which gives a baboon
like appearance to the fore part of the body in this sea which is wearing on the other.

3. The common baboon (C. papio. De Fuss.) as of a unin-
iform yellowish brown colour, slightly shaded with sandy;
the coat is longer upon the upper parts of the body, as extremities;
the whiskers alone are of a light fawn colour; the ears
and hands are naked and entirely black, the upper eye-ledge
white, and also naked, and the tail about half the length
of the body, but not terminated by the tuft which distinguishes
up of the fore two toes of the truncus; the head
is rather longer than that of the neck and shoulders, but is
neither so long nor so thick as to give it any resemblance
to the mane of the chamea or derriss; neither is the
the present species so much prolonged as in the two
present species, and a nose, long and fine, and
the extremity of the lips, and has the nostrils opening
as in the other baboons; the cheeks are considerably
swollen immediately below the eyes, after which the breadth
of the face continues suddenly, giving the muzzle or nose
the appearance of having been broken in that situation by
the mountains above Arbeeke on the Red Sea; and we learn
from Sale and Pears in that they are extremely common upon
the shore of the Red Sea, and that the native traders often
bought them in the town of Basse, and in the mountains near the city of
Quemfud in the country of the Wababees, as well as in the
mountains
a heavy blow. The whiskers are not so thickly furnished as in the species already described; they are, however, equally directed backwards, but do not conceal the ears, which are black, naked, and less regularly oval than in man and the gregariousness of the simian. The under parts of the body, the breast, belly, abdomen, and inner face of the arms and thighs, are very sparsely furnished with long hairs of a uniform brown colour. The females and young differ in no other respect from the adult males, except in being of a lighter and more active make.

This species inhabits the coast of Guinea, and is that most commonly seen about the streets, and in menageries and museums. In youth it is gentle, curious, glutinous, and incessantly in motion, snacking its lips quickly, and chattering when it wishes to beg contributions from its visitors, and screaming loudly when refused or tantalized. As it grows older, however, it ceased to be familiar, and assumes all the nervous look and repulsive manners which characterize the baboons in general. The specimen observed by Buffon was full grown, and exhibited all the ferocity of disposition and intractability of nature common to the rest of its kind. It was not (says he) altogether hideous, and yet it excited horror. It appeared to be continually in a state of savage ferocity, grinding its teeth, perpetually restless, and agitated by an unprovoked fury. It was obliged to be kept shut up in an iron cage, of which it shook the bars so powerfully with its hands as to inspire the spectators with apprehension. It was a stout-built animal, whose nervous limbs and compressed form indicated great force and agility; and though the length and thickness of its shaggy coat made it appear to be much larger than it was in reality, it was nevertheless so strong and active that it might have readily worsted the attacks of several unarmed men.

The Mandrill (C. Roman and C. Maimon, Linnaeus) is the largest of the whole genus, and may be readily distinguished from all the other baboons by the enormous protruberance of its cheeks, and the bright and variegated colours which mark them, as well as by its short upright tail.

The full-grown mandrill measures above five feet when standing upright; the limbs are short and powerful, the body thick and extremely robust, the head large and almost destitute of forehead, the eye-brows remarkably prominent, the eyes small and deeply sunk in the head, the cheek bones swollen to an enormous size, and forming projections on each side of the nose as large a man's fist, marked transversely with numerous alternate ribs of light blue, scarlet and deep purple, the tail not more than a couple of inches in length, and generally carried erect; the callosities large, naked, and of a blood-red colour. The general colour of the hair is a light olive brown above, and salmy grey beneath, and the chin is furnished underneath with a small pointed yellow beard. The hair of the forehead and temples is directed upwards so as to meet in a point on the crown, which gives the head a triangular appearance; the ears are naked, angular at their superior and posterior borders, and of a bluish black colour; and the muzzle and lips are large, swollen, and protruberant. The former is surrounded above with an elevated rim or border, and truncated like the snout of a hog, a character which we have observed in no other baboon, and which leads us to suspect that the mandrill is the species of which Aristotle incidentally mentions by the name of Chloropithecus (Chloropithecus), (Hist. Anim. lib. ii. cap. 2.) and which may have been brought into Egypt or Greece by the merchants who kept up a regular intercourse with the African countries, and the countries of the interior. There are other considerations which give a strong degree of probability to this conjecture. The short, indeed almost tuberculous, tail of the mandrill, for instance, would lead Aristotle to compare it with the apes rather than with any other simial, all of which have tails of considerate length; and the truncated form of the snout would readily suggest its similarity to the hog (Sus). We are aware that the Chloropithecus of Buffon is generally identified with the common baboon or the dremus, but neither of these species possesses any character which justifies that supposition; and besides, the dremus is indisputably allowed to be the species designated by the much more appropriate name of Chloropithecus (Chloropithecus). Nor does the mandrill differ much in its general form and appearance from the pigitecus of Aristotle, which was the common magot or Barbary ape (Macacus inurus); there is no very great difference in the size of these animals, their external parts are, however, very much more developed than in the powerful make of their bodies, and the sinewy character of their short stout limbs; and in fact the only striking difference which exists between them is the proclivity of a stout, thick Auricular bone in the head and short face of the other. Thus we can very satisfactorily account for both members of the compound name employed by Aristotle; nor can an objection be fairly taken to the approximation which we have here made of his Chloropithecus to the mandrill of Guinea, on account of the extremely limited knowledge which the ancient Greeks possessed of the western coasts of Africa; since we know that they were well acquainted with other animals from the same or even a more remote locality; such, for instance, as the gnu (Antilope grus) and the elephant, which are both mentioned by ancient writers, and the pecassoe or buffalo of the Gold Coast.

The females and young mandrills differ from the adult males in the shorter and less protruberant form of the muzzle, which is moreover of a uniform blue colour; the cheek bones have little or no elevation above the general plane of the face, nor are they marked with the longitudinal furrows which give the other sex so singular an appearance; at the same time, however, being less powerful and not so strong as the mandrill, it is only indeed when they have completed their second generation that these characters are fully displayed in the males, and that the extremity of the muzzle assumes that bright red hue by which it is so remarkably distinguished.

The mandrill is often mentioned in the histories, and bears the different names of simites, chorases, boggo, borrya, &c., according to the language or dialect of the tribes in whose territories it has been observed. It is described as being remarkably strong and mischievous, but many traits of its character and habits have been confused with those of the chimpanzees (Pithecus troglodytes), a very different animal. Its mental character and habits do not differ sensibly from those of the other baboons, except that it becomes, in advanced age, still more pronouced and inarticulate. It is a common place among persons accustomed to a domestic state generally remarked to have had a strong taste for spirits and fermented liquors; a remarkably fine individual, which was long kept at Exeter Change, and afterwards at the Surrey Hospital, daily, and evidently enjoyed it: it was a most amusing sight to see him seated in his little arm-chair, with his quart pot beside him, and smoking his short pipe with all the gravity and perseverance of a Dutchman. In these of nature it is of great interest to notice how the mandrill yet appears to render the mandrill a truly formidable animal. As they generally march in large bands, they prove more than a match for any other inhabitant of the forests, and are even said to attack and drive the elephants away from the districts in which they have been seen; but the inhabitants of these countries themselves are afraid to pass through the woods unless in large companies and well armed; and it is said that the mandrills will even watch their opportunity when the men are in the fields, to plunder
much higher antiquity. Both within and without the walls are confused heaps of rubbish, which appear to be the ruins of ancient buildings.

[Reproduction of the great stones of the base of the great temple, from Pococke's Travels in Syria.] Mr. Wood thinks that the word ἐπιδυκέω, in the Chromium Paschale, refers to these stones. The material is a white granite, with large shining veins like gypsum. (Volney.) This stone abounds on the spot and in the adjacent mountains; quartz, sandstone, and slate are formed in several places. In one called St. Elias, there is still, among other stones of a vast size, one worked on three faces, which is nearly seventy feet long, and about fourteen feet in thickness each way. The more ornamental parts of these buildings were carved out of a conglomerate rock, which was brought from a more distant quarry west of the city.

When Wood and Dawkins visited Balbec in 1751 only a small part of the city was inhabited, towards the south and west, near the circular building. The houses were mean, with flat roofs, on which, during the summer months, the inhabitants often pass the night. A large portion of the space within the walls is entirely neglected, while a small part is employed for gardens, a name which the Turks give to meadows where they grow vegetables or raise flowers for the market. In 1751 the number of inhabitants amounted to about 5000, of whom a few were Greek, and some Jews, and all without trade and manufactures. The bad government of the emirs of the house of Harfouche, the earthquake of 1759, and the wars of the Emir Yusef and of Djeezar, had reduced the population to 1200 at the time Volney visited Balbec in 1785. The ground immediately about the wall is rocky, and little advantage is taken of theạyland for raising provisions which might be useful employed to irrigate the gardens. A little cotton, a small quantity of maize, and some water-melons, was all that the wretched inhabitants cultivated when Volney was there.

(The Ruins of Balbec, by Wood and Dawkins, 1 vol. folio; Journey from Aleppo to Jerusalem, by Henry Maundrell; M. de la Roque's Travels; Volney, Voyage Pittoresque dans la Syrie.) Mr. Bruce also visited Balbec, and made four drawings of the ruins, which he presented to George III. These drawings are not to be found in the catalogue of Maps, Drawings, &c., in the King's Library in the British Museum, given by George III. and IV. to the nation: from which circumstance we may infer that they were kept back, and that the present view is the present collection.

BABA, or BÁBE, in Turkish Báb-Bourou, is the Cape Leuctum of the Greeks. It is a rocky bold headland of Anastia, north-west of the northern extremity of the gulf of Adramytium. It answers also to the entrance between the islands of Lesbos, now Mitylene, and Tenos, which preserves its ancient name. The cape, which is scarcely twelve miles distant from the northern extremity of Lesbos, is in 39° 39' N. lat., and 26° E. long. Doctor Chandler calls it a promontory of Moe in Isid. but Mr. King's rule adds a continuation or off-shoot of that celebrated mountain mass, the numerous tops of which are seen in the distance. The whole line of coast from the head of the gulf of Adramytium to Cape Bab-dar is very rocky and steep, and island from the bleak cliffs there runs a continuous chain of low turrets, which gradually increase in elevation as they recede from the sea and approach the summits of Mount Ida. After the cape is fairly debouched, the long level of the plain of Mesta is turned by the kadera in a striking contrast; for it is so flat and low that, when observed from a short distance at sea, it looks like a mere line nearly all the way from Cape Babá to the promontory of Sigieum and the Hrillespont. Projecting from Cape Babá there is a group of small islands, of which one, Harpá, is said to have been visited by the Hundred Islands, but named by the modern Greeks Muskoní. Six leagues to the north of the Cape, and in the Troad plain, are the ruins of the ancient city of Alexandra Troas, and about four leagues up the shore of a bold hill facing the sea and Lesbos, are the more important remains of the ancient city of Assos.

A small town, called by the same name, and sometimes, by the Franks, St. Mary's, stands on a shelving point of Cape Rachel on the promontory of Homer. The cape is only capable of receiving the small convoys of ships and boats, and even they are not safe in it during gales from the south or west. Vessels bound to the Hrillespont, or Dardanelles and Constantiopolis, frequently come to anchor in the road near under the cape. Close to the cape and just below the promontory of the Karian or northern winds, but great care is necessary to guard against any sudden and violent change of weather, by which they would be exposed to the dangers of a rocky lee-shore and of a narrow sea. The town of the peninsula is now totally deserted, and the little village to which it gives name is inhabited by Turks, and the sword-blades and knives made there were highly esteemed by the Turks. Though the trade has declined, certain yataghans and large knives, like the contenue de chasse, and said to be of superior quality, are still manufactured there. The chief industry is pastoral:—the wild, uncultivated hills, rising like the downs on the south coast of England from the sea, afford good pasture for one part of the year, and at the other the inhabitants come down to the shores of Mount Ida. The voyager, passing between the island of Lesbos and the main, may often see their broad-tailed sheep grazing among the ruins of the once large and prosperous city of Assos. The neighbouring country abounds with wild almond trees (Quercus cypria), a dwarf tree, seldom exceeding five or six feet in height. The large cups that contain the seeds of this species of oak are well known in commerce; they are used for tanning, and form a principal article of export from all this part of Turkey. The inhabitants of Babá who attend to this branch of trade carry these valones (as the product is commercially termed) to a part in the gulf of Atramiy, where it is either shipped at once at Constantinople, or is carried to Constantinople, or is sold at Smyrna, where it is sold, and then re-shipped in European vessels for Italy, England, and other countries.

BABEL. (See BABYLON.)
long. The Langa Strait is from nine to ten miles wide, and to the south of it, near the coast of Africa, are eight small islands, or rather rocks, called the Eight Brothers. In the midst of the strait no soundings are found with a hundred fathoms of line; but close to the Eight Brothers, along the coast of Abyssinia and near the Island of Pernh, the depth of the sea varies from twenty to thirty fathoms. The Eight Brothers are of moderate height, rocky and barren. Cape Babel-Mandeb (12° 40' N. lat.) projects a great way from the main land, which is low, so that when the wind blows from the west it has the appearance of an island. It rises to no great height, but is rocky and precipitous on its southern side, and extremely barren.

The currents are commonly very strong in this strait, but they vary in direction according to the prevailing winds. (See Map.)

The name Babel-Mandeb, which in Arabic signifies 'the gate of tears,' seems to apply properly to the strait; and the appellation might naturally arise in consequence of the dangers to which small and light vessels are exposed in a narrow sea, surrounded by rocky shores, and subject to frequent gusts of wind. But this name appears on our maps and charts to be given with less propriety to the Cape, which probably has some different name among the natives. (Niebuhr, Horsemanship, 221.)

BABER or BABUR, with his complete name ZAIRED DIN MOHAMMED BABER, the celebrated founder of the Tatar, or, as it is often improperly called, the Mogul empire in Hindustan, was born on the sixth of Moharram, a. d. 1483. At the age of 13, new the Mughal prince, Omar Sheikh Mirza, a great-great-grandson of the celebrated Timur, or Tamerlane, was sovereign of Fergana, a province situated on both sides of the river Serir, the Jaxartes of the ancients. The revenues of this province, according to a remark made by Friar Petrus, without opposing the country, to maintain three or four thousand troops. Baber was in his twelfth year when his father died (9th of June, 1494). He succeeded in securing possession of the dominions in a short time, by the favour of his paternal uncles, Ahmed Mirza, the sultan of Samarqand and Bokhara, who, after a short and unsuccessful campaign, died in the middle of July, 1494; and by Mahmud Mirza, the sovereign of Badakhshan, who, after the death of Ahmed, succeeded him on the throne of Samarqand, but died, after a short reign, in January, 1495. Baber was equally successful in rescuing the towns of Asfera and of Khojend from the aggression of other hostile neighbours, but he was unable to recover the country and town of Urgam, which the Persians retained on his father's dominions. The history of Baber's reign till the twentieth-third year of his age is a continuous succession of vicissitudes, in which we find him alternately conquering and being conquered. Thus, in the first year of his age he was defeated and captured near his paternal dominions. In the year 1503, Shebani Khan, a descendant of Chengi Khan by his eldest son, Tushu or Jukhan, the sovereign of Kipchak, conquered not only Samarqand and Bokhara, but also the countries of Fergana and Urgam; and Baber, after wandering for nearly a year as a fugitive among the mountains that separate Fergana from Hisar and Karatigun, quitted his native country and resolved to try his fortune in Khorasan (1504), which was at that time in the hands of Sultan Hussain Mirza, a powerful and distinguished prince of the family of Timur. With less than three hundred followers, and only two tents, Baber crossed the river Amu, or Oxus, a little above Termez. He did not receive from Sultan Hussain Mirza the supplies he expected. In February, 1504, he was captured and carried back to Khorasan, where he was imprisoned, and held as a hostage by Khozra Shah, one of his opponents, who held Hisar, Khotan, Kunder, and occupied Badakhshan, quitted the service of that chief, and, by declaring for Baber, freed Khurram Shah himself to submit to him. Thus strengthened, Baber marched on to Kabul, which was surrendered to him after a short siege (October, 1504). He allowed the Afghan governor and the garrison to depart in safety, and divided the country of Kabul among those chiefs who served him with zeal and bravery.

In the month of January of the ensuing year (1505) Baber resolved on an irruption into Hindustan. From Kabul he advanced straightforward towards Kohat, a town situated 28 W. of Attok, which he plundered. He then marched in a south-westerly direction through the mountains into the Swat and two districts of the Swatan, which contain the villages of Kandahar, and the district of the Swatan, and the mountainous mountains, as far as the tomb of Peh Kama (probably near Dera Ghazi Khan, in lat. 29° 50'), and hence, without having crossed the Indus, he turned westward, passed over the Swatan, and returned by lakes Ab-i-stadeh and Ghazni to Kabul.

In 1506 Sultan Hussain Mirza died, and the state of affairs in Khorasan rendered Baber's presence, during the greater part of that year, a matter of necessity. The succeeding year was one of almost constant occupation of the country by Baber's forces. At the beginning of the year, Baber, unable to hold his own against the rising power of the Afghan chief, with whom he was, in the end, forced to make peace, attempted to reinforce himself by the capture of Kandahar, which was abandoned by the Afghans. Baber, with the promise of a large sum of money, succeeded in making a treaty with the chief of the Uzbeks, who infested Kabul and Khorasan by their incursions, and by the capture of Kandahar, which two Afghan noblemen, Shah Beg and his younger brother Mohammed Khan, refused to surrender. It was not till September that Baber could extricate himself out of the entanglements of the disturbances which were again unsuccessful, owing to the opposition of the predatory Afghan tribe between Kabul and Langush.

Baber's proceedings during the next eleven years (1508-1519), owing to a defect in his autobiographical memoirs, our information is imperfect. In 1510, the death of his old enemy Shebani Khan seemed to open to him a hope of recovering the dominions of his forefathers. In the succeeding year he undertook an expedition, by which he gained possession of Hisar, Bokhara, and Samarqand; but soon after, an invasion of the Uzbeks under Mohammed Timur Sultan, the son of Shebani Khan, brought him into imminent danger, and, unable to preserve the conquests which he had made, he returned to Kabul (probably in 1515).

In 1519 Baber undertook another expedition with a view to conquer Hindustan. He now for the first time crossed the Indus (1519-1520), and conquered a number of strong places, but soon re-crossed it, having taken a few places, and appointed governors in them. The next invasion, in 1524, in which he conquered and burnt Lahore, brought him beyond the Sutlej, as far as Sirhind, and gave him a permanent footing in that part of the country. The Afghan dominion in Hindustan was decided by the expedition which Baber undertook in 1525. On the 16th of December of that year he passed over the Indus; then marching along the skirts of the Himalaya, and crossing the rivers Behta and Chenab, he advanced straight to Sialkot (December 29), passed over the Ravee and Bheyah, and took the Afghan fort of Milavat (January 5, 1526), where he left a governor and garrison. Upon reaching Dün, Baber resolved to march at once against Sultan Ibrahim Lodi, the Afghan sovereign, in whose possession the throne of Delhi and the dominions of Hindustan at that time were. Advancing gradually by the towns of Sirhind, Ambala, and Shahabad, he crossed the Jumna by a ford near Sirwath, and pressed Purna (April 12), a town of some importance, taking the emperor's forces and the seven important battles fought near it, and situated about fifty miles N.W. from Delhi. Here Sultan Ibrahim, with his army, encountered him on the 21st of April, but was defeated and dispersed. In the following year Baber decided the conquest of Hindustan: for although there were many little principalities in the hills, yet the Afghan government, which extended from the Indus to Behar, was the only one of importance. Baber immediately dispached detachments to occupy the two principal cities of Delhi and Agra; the latter town he himself entered on the 10th of May, and took up his residence in Sultan Ibrahim's palace, while his son Humáün marched eastward against two Afghan chieftains who had assembled an army of from 40,000 to 50,000 men. They were defeated and dispersed. The provinces of Sambal and Robilcand, and the celebrated fortress of Gwalior, were in the possession of Baber before the end of the year. In the succeeding year were subdued. The Afghan was after the death of Baber's cousin, Akbar, that a regular administration of the whole empire was established.
Towards the conclusion of his reign, Baber endeavoured to promote the prosperity of his empire. He made or improved public roads, with resting places for travellers at suitable distances; he caused the land to be measured, in order to have a scale whereby to fix the taxation; he planted gardens, and introduced fruit-trees from abroad into the several provinces of Hindustan; and he ordered a regular line of post-houses to be built from Agra to Kabul.

Baber died at the Charbagh, near Agra, on the 25th of December, 1536, and was succeeded by his son Humayun on the throne of the empire, which is commonly, though improperly, called that of the Mogul. Baber was undoubtedly one of the most distinguished sovereigns that ever sat upon an Asian throne. In his character we perceive an uncommon portion of benevolence, good-nature, and frank gravity: and joined with this, he possessed the leading qualifications both of a statesman and a military commander in a high degree. Of his literary accomplishments and general information, the autobiographic memoir written by himself in his native language, the Juggutai Turki, gives us a most advantageous idea: there is perhaps no other work of this kind in existence which affords a more accurate notion, not only of the life, character, and way of thinking of its author, but of the whole aspect of his age, and of the persons and objects surrounding him. (See Memoirs of Zahir-ud-din Muhammad Baber, translated by John Levden and William Esquive, London, 1826, 4to.)

BABER ISLAND. [See Moluccas.]

BABIANA, a genus of Cape plants belonging to the natural order Indes. It derives its singular name from Babiano, by which the Dutch colonists call these plants, because their round subterranean stems are greedily eaten by baboons. It differs from Gladiolus in its round, leather-coated seeds, and in the flowers having the tube of Ixia, and from Ixia in having the irregular limb of Gladiolus.

Fourteen or fifteen species are known, among which are some of the handsomest of the Cape bulbous plants, as they are commonly though incorrectly called. Of these all have narrow, pointed, sword-shaped leaves, rising from a cormus which is covered with rigid, netted, brown scales; this part, which is sometimes called the bulb, sometimes the root, but which in reality is a short, underground stem, is propagated by one or more young buds near its point, which shoot up at the season of growth, feed upon the old cormus till they have suckd it quite dry, and by that time become new cormus themselves elevated upon the point of the original one. In this way the underground corms gradually rise towards the surface of the earth, and afford an instance of vegetable progression which by some has been adduced as extremely remarkable, but which in fact, if the phenomenon be rightly considered, precisely analogous to the progression of the stem of the plant upon the air by the formation of fresh branches year after year.

The flowers of babiana are yellow, purple, and even scarlet, of considerable size, and extremely handsome. They are produced in perfection, provided the plants are so situated as to be exposed to air, and to have an equal portion of sun, and moisture, when in a state of growth, and preserved cool and dry while in a state of repose. It is in the plains of the Cape of Good Hope that these plants are found, where they are exposed for two or three months, at the most, to rain; and where, during the remainder of the year, they are buried beneath a soil so dry, that even succulent plants themselves can scarcely contrive to exist upon it. The following species will illustrate the genus.

Boedemaphysulphur, one of the commonest species, grows about a foot high, with oblong plaited hairy leaves, and a one-sided spike of four or five flowers. The latter are about two inches long, of a pale sulphur-yellow, with a short sky-blue tube and eye: the segments are oblong, slightly wavy, never equal in size, and equally rounded at the tip, and are equally round three short erect stamens. The style and stigma are sky-blue; the latter very narrow and channelled.

BABINGTON, WILLIAM, a distinguished physician, was born in June, 1736, at Pottiglen, a village on the Ban, near Toronto, in the province of Quebec. He was the son of a clergyman, who, having a numerous family, determined that one of his sons should be brought up to medicine: he chose fell upon William, and he, after acquiring the usual elements of general education, was apprenticed to a medical practitioner at London. After the end of his apprenticeship, he proceeded to London to complete his medical education. Being provided with an introduction to Mr. Frank, surgeon to Guy's Hospital, he became the latter's clerk at the institution. From thence he went to St. Bartholomew's Hospital, and afterwards, for a short time, to the Winchelsea Hospital. Having made a most favourable impression with respect to his talents, application, and steadiness during his studies at Guy's Hospital, he was, upon the occurrence of a vacancy in the office of apothecary, summoned from Winchester to enter upon the duties of that situation, at an earlier age than it is customary to intrust so responsible an office to any one. Soon afterwards he was selected to assist Dr. Saunders at the hospital in his lectures on chemistry. This contributed to render his name known beyond the walls of the hospital; and while still there, by the advice of some friends, he purchased the valuable collection of minerals which had belonged to the Earl of Bute—the finest perhaps which at that time existed in England. This had much influence in determining his pursuit of mineralogy. Upon obtaining possession of his purchase, he proceeded to class the minerals and to catalogue them. He also divided the cabinet into several portions, which he disposed of at different times. In 1755 he published a Systematic Arrangement of Minerals, founded on correct consideration of their chemical, physical, and external characters, reduced to the form of tables; which was preceded by a smaller work.

In 1767 he resigned his office at Guy's Hospital, and having obtained the degree of Doctor of Medicine, he commenced private practice as a physician in Freeman's Court, Cornhill, in the City of London. Soon after he was elected one of the physicians to Guy's Hospital, where he continued to lecture on chemistry, in which he was joined by Mr William Allen. In 1769 he published his New System of Mineralogy, which may be considered a continuation of the former work. In 1802 he published a Syllabus of the Course of Chemical Lectures. In 1764, previous to leaving Guy's Hospital, he had become a Fellow of the Medical Society of London, and exerted himself zealously to promote the advancement of the science of medicine—which is the chief object of that society. Having received his degree of Freeman's Court, he became the neighbour and friend of Dr. Lettsom, the greatest supporter and benefactor of the Medical Society, whose efforts in its behalf were ably seconded by Dr. Babington.
From this time he rose rapidly in public estimation as a physician, and his practice having greatly increased, he removed to larger house in Albermarle Street. To this house, in 1807, "with a view to enable Count Bournon, of whom he had been a pupil, to publish his elaborate monograph on the carbonate of lime, Dr. Babington invited a number of gentlemen to be his guests for the purpose of discussing and approving the publication of mineralogical knowledge. A subscription was opened, and the necessary sum readily collected. This object having been accomplished, other meetings of the same gentlemen took place, for the joint purpose of promoting the study of mineralogy and of entering the line of public instruction. From such small beginnings sprang the Geological Society; and among the names of those by whose care and watchfulness it was supported during the early period of its history, that of Dr. Babington must always stand conspicuous. (See Transactions of the Geological Society, 1834.) In 1832 he was elected president of the society, having been vice-president in 1819 and the three subsequent years. He enriched the museum and library with liberal donations, and the Transactions contain several papers by him. The interest which he took in the objects of this society and the collateral sciences continued unabated to the latest period of his prolonged life; and ever willing to consider himself, though so nearly a layman, as a layman with the aid of a layman," Dr. Webster, after he had quitted the office of president of the Geological Society. He exhibited a similar zeal in respect to chemistry, by attending the course of chemical lectures at the London University in the year 1839. Indeed, the species of knowledge into which he was not only initiated by books, but literature, to which he owed nearly all his duties as a physician, practical chemistry, especially pharmacy, with geology, and vegetable physiology, continued to engage his attention as much as in his earliest years.

It deserves to be recorded that his acquaintance with the physical appearance, as well as chemical qualities, of minerals led him to suspect that a substance sent from Cornwall by Dr. Wavel, and which was at first considered as a new mineral, was a mineral not before described; a suspicion which was confirmed by the analysis of Devy. (See Transactions of Royal Society, 1805.) It has accordingly been designated Wavelite.

The interests of medicine were not neglected by Dr. Babington; and in order to promote its advancement, he was the chief means of instituting, in the immediate neighborhood of his residence, a society called the Hunterian, for the purpose of friendly meetings and the discussion of medical topics. He also became a member of the Medical Chirurgical Society, of which he became a vice-president. The Transactions contains a paper by him: A Case of Exposure to the Vapour of Burning Charcoal.—1809.

While his mornings were devoted to the practice of his profession, his evenings were devoted to the pursuits which interested him most, whether the attainments or love of science. He was the personal friend of nearly all the most eminent scientific men of his day, by whom he was as highly appreciated as he was justly esteemed by the public as an able and enlightened physician.

The Royal Society admitted him as one of its fellows, and the Royal College of Physicians testified their sense of his character by electing him from among the ranks of the lieutenant into the number of the fellows. In 1831, being desirous of lessening the fatigue attendant upon his extensive practice, he removed from Albermarle to Devonshire Street, Portland Place, where, however, he continued to visit the latter physician, a few of his attached friends and patients. During the interval of the season of the spring of 1833, he zealously attended his patients, till at last, from exposure to the evening air after being present at a crowded scientific meeting, he was attacked by that disease, and on the 19th of May expired at his house in Devonshire-street, in the seventy-seventh year of his age. The general expression of regret which followed the announcement of Dr. Babington's death proved the estimation in which he was held. Not only his numerous private friends, but all the people of both ranks to whom he belonged, lamented the loss which they had sustained in the most feeling and honourable manner.

As a man, he acquired the affection and esteem of all among whom he moved, with whom he had occasion to transact business, or to whom he gave his professional attainments, by his kind and gentle manners and the warmth of his heart. Ever eager to promote merit, and to render service to the claims of talent, he was always ready to go out of inferior to more elevated situations, he was above all petty jealousies, and dreaded no increase of rivals. It was the proud but just eulogy pronounced upon him by a contemporary, that "he never rose by depressing others." On the contrary, he was the most liberal personification of the generous and liberal spirit of the age. His social intercourse with junior members of his profession forms one of the brightest parts of his character. One instance of this, among many others, was his conduct towards the late Dr. Groch, who had been his pupil. His profound attachment to the medicine of the Day was once just, elegant, and affecting. (See Goec. On Diseases peculiar to Women, 1829.)

As a scientific man, without any ostentation, he yet greatly contributed, during nearly half a century, to the extension of medical science by his own discoveries and contributions. He was perhaps the first who gave a new impulse to the study of mineralogy and geology, the beneficial effects of which will long be felt. Though he had a large family, few of them outlived him; but among the number are two sons, both members of the medical profession.

For further particulars we refer to the forthcoming Memoir of his Life and Writings, by his son-in-law, Richard Bright, M.D., Fellow of the Royal College of Physicians, etc.

BABIROUSSA is sometimes called the horned hog by travellers, from the great length and curved form of its upper tusks, which pierce through the upper lip and grow upwards and backwards like the horns of the ruminantia: it is found in various species of the genus Sus, in which it is indigenous in Ceylon, Celebes, and others of the larger Sunda isles. From its more slender proportions and longer limbs, compared with other species of the same genus, this animal has been likened to the boar, and called the horned boar. Babirusa is the name given to the antelopes; at least it seems probable that it is the Sus tetracerus of Aelian (lib. xviii. cap. 10), and is plainly referred to by Pliny (lib. viii. cap. 52). For its description and history see Hoc.

BOOON (Beech-phantus, Cuvier), in zoology, a genus of quadrupeds, or four-footed mammals, which forms the last link in the chain that unites the simiae, properly so called, with the lower animals. The zoological or technical name of this genus, Cynocephalus, is a Greek word employed by Aristotle and other antient writers to designate the common species of Egypt and Arabia, the C. huma- dryas of modern writers, and is plainly derived from the marked resemblance which the head and face of these animals bear to those of a dog, and which bears out the most distinctive character of the genus. The origin of the common name baboon is a subject of greater doubt. Skinner and other British etymologists are content with deriving it from our vernacular word babbe, without considering that the Duodecim赶紧 of the branch of baboon, and the Italian babbiu, are manifestly but so many different modes of writing the same term. A more probable origin of all these terms appears to be the Italian babbiuno, from which is likewise derived, according to the opinion of Aldrivandus, the vulgar Latin word papio, applied by the writers of the fifteenth and sixteenth centuries to these animals, and which is itself a diminutive of the common Italian word babbo, which answers to our papa.

Though the baboons differ widely from the other groups of quadrupedous animals, and may be readily distinguished at sight even by those who are not much in the habit of observing them, yet it has been found not a little difficult to form such a simple definition of the genus as will comprehend all the species properly belonging to it, and yet distinguish them from those which pertain to the proximate genera, Marurus and Ceropeterus. This difficulty, which is indeed common to most of the genera of quadrupeds, arises from the fact that the zoological characters of these animals are so much as in the different degrees or modifications of the same structure which each exhibits, and which, though readily seized by the eye, are not so easily conveyed to the ear. Yet not merely are the differences of defining the modifications in question are of the utmost importance in studying the history and structure of these animals, and exercise a powerful influence on their habits. The most marked and prominent of the characters which more immediately distinguish the baboons from the other simiae, consists in the great pro
longation of the face and jaws, and in the truncated form of the muzzle, which gives the whole head a close resemblance to that of a large dog, and from which, as already observed, the baboons are called toad-headed. But the nostrils are much retracted, and the teeth are more resembling those of a dog. In the ordinary quadrumanous, which have the head and face round as in the human species, the nose is flat, and the nostrils situated about half-way down. We are, however, in the present instance, beholding no unapt resemblance to that of a man who has lost the greater part of his nose; but in the baboons this organ is prolonged uniformly with the jaws; it even surpasses the lips a little in length, and this lip is open at the end of it exactly as in the dog. Here there is a marked difference in form and development from what we observe in the apes and other higher groups of quadrumanous. The great length of the face detracts from the size of the skull; the organs of mastacodonture are atrophied, and a few teeth are the only remains of the precapitale; the inter-atlas functions; the facial angle, which has been generally regarded as a pretty accurate measure of the mental capacity, is reduced to 30°, whilst it is never less than 45° in the monkeys, and among the apes amounts even to 60° or 65°; and the character of the baboons, as might be readily suspected from these indications, is less docile and intelligent than that of the kindred genera. To the same prolongation of the face, and preponderance of the anterior part of the face, is ascribed the larger brain-case in the baboons. I believe the true explanation of this measure, the fact that the baboons less frequently assume an erect posture than any of the other quadrumanous, and are less capable of maintaining it for any length of time, is the real cause of the smaller size of the skull forms; but a very inefficient counterbalance, fatigues the muscles of the neck, and constantly tends to make the animal seek for support upon all four, as may be observed in a dog or a bear; and in fact the baboons are but very little superior to these animals in the facility with which they maintain themselves in an upright posture.

The compressed and robust form of the body, and the short, muscular, and powerful nature of the limbs, are other characteristics of the baboons. It is the universal custom to exercise a very sensible influence upon their habits and economy. Generally speaking, the quadrumanous are of a slender and active make, with long arms and legs, which adapt them for climbing and residing among the branches of trees; but the shortness of their limbs, and the weighty and powerful make of their bodies, whilst they do not entirely exclude the baboons from grasping and climbing trees, nevertheless render the woods and forests a less agreeable habitation to them than the milder rocky mountains, where they live in large families, and climb among the cliffs with great ease and security. Their whole habits, indeed, as well as their organic structure, approximate these animals to those of a quadrumanous, in that they have their organs of smell, the position of the nostrils, which are more conveniently placed for the exercise of that function than in the other quadrumanous; the robust make of the extremities and the equality of their length, their gait, their habitat, the size and power of their canine teeth, and the nature of their food, all indicate their inferiority to the apes and monkeys. And as the habits of animals are necessarily derived from their organization, as the functions of an instrument depend upon the component parts of its structure, in proportion as the baboons are degraded in the scale of nature by their organic conformation, in the same degree do they participate in the intellectual inferiority, and, if we may be allowed the expression, in the moral degradation of the lower classes of animals. Without the general outlines of the organization, they preserve much of the character of the other quadrumanous; but it is only the worst part of the character of the apes and monkeys which is exhibited in the baboons:—it is their malignity still further heightened by an abandonment of all the moral qualities without their playful curiosity, — their disgusting approach to humanity, without their gentleness and dulity. In their native mountains, the ordinary food of the baboons is plantains and potatoes; but their habitations they make enclosures into the cultivated fields and gardens, and destroy a still greater quantity of grain and fruits than they carry away with them. In well-inhabited countries, where they are likely to meet with vegetables, they eat them in abundance during the night, and travellers assure us that, taught by experience of the risks to which they expose themselves during such expeditions, they place sentinels upon the surrounding trees and heights to give them timely warning of danger. But it is otherwise in the districts, where the thinness of the population and the want of fire-arms place them on some degree of equality with the inhabitants, they make their forays in the open day, and dispute with them the land, and the trees, and even seeing that the men had no guns. Some travellers even assert that if the troop happens to be surprised in the act of pillaging, the sentinels pay with their lives for their neglect in giving the general safety; but however this may be, it is certain that individuals are sometimes met with, who, from the marks of all usage from their companions, and which even sometimes appear to have been expelled from their society. Others assure us that the troop sometimes forms a long chain, extending from the vicinity of their ordinary habitation to the garden or field which they happen to be engaged in plundering, and that the produce of their theft is packed from hand to hand till it reaches its destination in the mountains. By this means they are enabled to carry off even from the houses of every family a quantity of food, which is his own peculiar benefit; but notwithstanding this attention to the general interest, each takes care, before retiring, to fill his cheek pouches with the most choice and profitable morsels, which he is most likely to be pursued, to carry off quantities in his hands. After these expeditions the whole troop return to the mountains to enjoy their booty. They likewise search with avidity for the nests of birds, and such the eggs; but if there be young, they kill them and destroy the nest, as, notwithstanding the evident approximation of their organization and appetites to carnivorous animals, they are never known to touch a living prey in a state of nature, and are in captivity will eat no flesh, but what has been thoroughly boiled. One of the most beautiful habits of the various baboons enjoy their mutton bone, and peck at it with apparent satisfaction, but it was evidently an acquired habit, like that of drinking porter and smoking tobacco, which they had been taught by the example of their keepers.

Of all the quadrumanous, the baboons are the most frightfully ugly. Their small eyes deeply sunk beneath huge projecting eyebrows, their low contracted forehead, and the very diminutive size of their cranium, compared with the great size of the enormous teeth which they do not fail to display upon the slightest provocation. The fierceness and brutality of their character are manifestly exhibited to the expression of their physisomony. These characteristics are most strongly displayed by the males; but it is even more especially when, in addition to their ordinary disposition, they are agitated by the passion of love or the desire to kiss the young females who resort to their habitation, and the sight never fails to excite in these animals a degree of rage bordering upon phrenzy. On one occasion the keeper of the baboons at the Cape of Good Hope (Cynocephalus Porcirostris) escaped from his place of confinement in the •Jardin des Plantes' at Paris, and far from showing any disposition to return to his cage, severely wounded two or three of the keepers who attempted to induce him to return quietly, they at length killed upon a plan which was successful. There was a grating window at the back part of his den, at which some keepers attempted with the daughter of one of our superintendents, whom he appeared to view the animal. No sooner did the baboon perceive familiarity, than he flew into the cage with the fury, and endeavoured to unfasten the grating of his cage, then made a tour of the room, and his head and face this from the object of his hate. Whilst employed in this vain attempt, the keeper...
opportunity of fastening the door and securing him once more in his place of confinement. Nor is this a solitary instance of the influence which women can exert over the passions of these savage animals: generally untamable and incorrigible whilst under the management of men, it usually happens that baboons are most effectually tamed and led to obey not only than ordinary obedience in the hands of women, whose attentions they even appear to repay with gratitude and affection. Travellers sometimes speak of the danger with which women run, who reside in the vicinity of the situations where these animals inhabit, and affirm that the negroes on the coast of Guinea are occasionally kidnapped by the baboons, and carried off to their fastnesses: we are even assured that some of these women have lived among the baboons for many years, and that they were prevented from escaping, by being cut up in caves in the mountains, where, however, they were plentifully fed, and in other respects treated with great kindness. It is to be observed, however, that these accounts rest upon authority which is by no means unquestionable; credible and well-informed modern travellers do not relate them, and even their older and more credulous predecessors give them only from hearsay.

In addition to the mental and physical characters already mentioned, the baboons, besides the great development of their canine teeth, are distinguished by having a fifth tusk-like upon the posterior molar of the under jaw, in which respect they differ from the apes and cercopithecus, and resemble the macaques and spermopithecus. They are furnished with large, active, and capacious cheek pouches, which, in their adult, are always smaller than those of the monkeys, and resemble, carried erect at the root, and then hanging pendulous, perpendicularly, like that of a horse which has not been truncated. Those species which have these pouches have always, in their upright and erect state, the bones of their cheeks also, are more prominent and form large swellings on each side of the nose; and though this character is more strongly marked in the mandrill and drill than in the other species, yet all exhibit it in a greater or less degree. It is only in the baboons of MM. Geoffroy and F. Cuvier have developed the true generic characters of the different groups which compose the family of Cynocephalus, that we have become acquainted with the geographical distribution of these animals, and the habitats of the different genera. We have thus learned that the quadrupeds of the African continent are as distinct from those of Asia in their zoological characters, as they are in the localities which they inhabit; in fact, among upwards of fifty species of simiae belonging to the old world, there are only two known instances of an African quadruped that will be found occurring in Asia. One of these instances is very doubtful, since it is not certain, although the common muzzele or Bubale apes, though generally considered as a moneck, is in reality an intermediate species between that genus and the baboons, and is only the labour of the latter that does in its powerful and muscular frame, and in its general habitus and character, and from which it only differs in the comparative shortness of its face and the less truncated form of the same.

These, to be sure, are very essential characters in the true baboons; but there is one final intermediate species which partakes, as it were, equally of the characteristic form and organization of two or even three consequent genera, and which it is often impossible to determine a complete classification on the strict import of these peculiarities.

The other instance to which we have alluded regards a small species of baboon, the Cynocephalus hirtus, which is found in Asia and Africa, and which forms also the same intermediate species, being common to both those continents. In Asia the baboons are a strictly African genus: they inhabit the greatest mountain ranges of the continent, and the Mts. Intermittent to the Cape of Good Hope, covering the whole extent of the mountainous country than any of the other quadrupeds. The inhabitants of the same islands in the South, and the Bedouins in the desert, where many of the other quadrupeds, together with the baboons, in the mountains of the lower plains. Baboon is the writer upon mammalogy, is sometimes known as Baboon, but it is evident that some of the baboons were the females of some other species. In fact, the most judicious mammalogists, from their own original observations, do not reckon more than five or six. The following are very distinctly marked, and have been universally admitted.
which their robberies are carried on, yet it is very true 'that they go in large companies upon their marauding parties, prevail upon the hogs to follow them off the roads, and carry them off in greater security.' Their common food consists of the bulibous roots of different plants, particularly of the babiana [see Babiana, p. 229]; these they dig up with their fingers and peel them with their teeth, and heaps of the parsnips are frequently seen on the sides of the roads, which are thrown up for the baboons delight to sit and look round them. In ascending the slopes or passes in the mountains of South Africa, which are frequently steep, narrow, and dangerous, travellers often find one or two ones left behind with a bundle of sticks and firewood. The animals do this to guard against the anger of the baboons which are in a hurry to follow the caravan. A full-grown baboon is more than a match for two good dogs, and though there is no animal which hounds it with so much fury, yet the boors of the interior would rather set their dogs upon a lion or panther than upon one of these baboons.

2. The Derrias (C. homodryas, Linneus), the most celebrated of all the baboons, and probably the only species of this genus known to the ancients, inhabits the mountains of Arabia and Abyssinia, and gives its name to a common species of baboon. The posterior part of the body, as far as the feet, is covered with long shaggy hair; the hair on the hips, thighs, and legs is short, and, contrasted with the former, has the appearance of being clipped, so that the whole animal bears a near resemblance to a French poodle. The hair of the occiput and neck is upwards of a foot in length, and forms a long mane which falls back over the shoulders, and at a distance looks something like a full short coat. The hair is broad and glossy in a point of situation, as to conceal the ears; their colour, as well as that of the head, mane, and fore part of the body, is a mixture of light grey and cinereous, each hair being marked with numerous alternate rings of these two colours; the short hair of the hips, thighs, and extremities is of a uniform cinereous brown colour, rather lighter on the posterior surface of the thighs than on the other parts; a dark-brown line passes down the middle of the back, the hands are almost jet black, and the feet are rusty brown. The tail is about half the length of the body, and is covered with hair. In habits as in appearance, this baboon is a great rascal; it is terminated by a brown tuft of long hair; the callousness are large and of a dark flesh colour; the palms of the hands and soles of the feet dark brown. The female is less hairy, not able to the male in point of situation, and differs considerably in the length and colour of the hair. This sex wants the mane which ornaments the neck of the male, and is covered over the whole body with short hair of equal length, and of a uniform deep olive-brown colour, slightly mixed with green. The throat and breast are but sparingly covered with hair, and the skin on these parts, as well as on the face, hands, and callousness, is of a deep tan colour. Hemprich and Ehrenberg, who have given a very complete history and description of this species in their excellent work entitled Symbolae Physicae, now in process of publication, compare the female derrias to a bear, whilst the copious mane which adorns the fore quarters of the male gives to that sex much of the external form and appearance of a bear. The male is larger, longer, and more powerful than the female, and the large whiskers and manes of the males only begin to make their appearance when the animals arrive at their full growth and maturity, that is when they have completed their second dentition. At this period they undergo a change in the internal proportions as well as in their physical appearance. While young they are gentle, docile, and playful, but as soon as they have acquired their full development, they become sulky, malicious, and monstrous.

This species inhabits Arabia and Abyssinia, but it is not found either in Egypt or Nuba, though its figure is often sculptured on the antique monuments of both those countries. Hemprich and Ehrenberg found large troops of them in Wadi Kanun and in the mountains near the city of Guamat in the country of the Wahabees, as well as in the mountains above Arbees on the Red Sea; and we learn from Salt and Pearce that they are extremely common upon the coast. The male baboon has a singular habit, which appears to be shared by the other species also, of seeking and gathering troops of dogs, of which the males found troops of a hundred and upwards in the neighbourhood of Eriet, in the chain of the Taranta. These were usually composed of ten or a dozen adult males, and about twenty adult females; the remainder of the troop was made up of the young ones of the four or five preceding years. We have seen a distance approaching a small stream for the purpose of quenching their thirst, they bore a close resemblance to a flock of wild hogs; and it was observed that the males of each of these troops were the actual leaders, and brought up the rear, probably for the purpose of having the whole family continually under their immediate observation. They did not appear to pay the slightest attention to the Galias and Abyssinians, but when the European travellers approached whom they probably distrusted from the appearance of their fire-arms, the old males abandoned their station in the rear, and placed themselves between the troop and their pursuers, so that it was found very difficult to procure specimens of either the females or the young. When they first observed the travellers approaching, they all stood up on their hind feet for the purpose of examining them; the old males, having driven away the females and young animals, remained in this position till the near approach of the party compelled them also to retire. The black baboon, however, set the signal for the retreat, and the animals were said to have retire. The black baboon, however, set the signal for the retreat, and the animals were said to have

3. The common baboon (C. papio, Dcimaretz) as of a uniform yellowish brown colour, slightly shaded with sandy or ochreous, and when young, particularly in the limbs, the whiskers alone are of a light grey colour, and hands and feet are nearly black, the upper eye-lids white, and also black, and the tail about half the length of the body, but not terminated by the tuft which distinguishes the other species. The ordinary length of the face and body is rather longer than that of the neck and shoulders, but is neither so long nor so thick as to give it any resemblance to the mane of the chamece or derris; neither is the form of the present species so much prolonged as in those of the baboon: the nose, but it is produced beyond the extremity of the lips, and has the nostrils opening as in the other baboons; the cheeks are considerably swollen immediately below the eyes, after which the broadness of the face contracts suddenly, giving the muzzle or nose the appearance of having been broken in that nostrum by
The Mandrill (C. Mormon and C. Maimon). The form of the head is surmounted by an elevated rim or border, and truncated like the snout of a hog, a character which we have observed in no other baboon, and which leads us to respect the words of Aristotle incidentally mentioned by the name of Chorropheus (Chorophoneus), (Hist. Anim. lib. ii. cap. 2.) and which may have been brought into Egypt or Greece by the merchants who kept up a regular intercourse between Egypt and the countries of the Levant, considerations which give a strong degree of probability to this conjecture. The short, indeed almost tuberculose, tail of the mandrill, for instance, would lead Aristotle to compare it with the ape or pilduc (philoduck), rather than with the fox (canis), at which all men search; and the truncated form of the snout would readily suggest its similarity to the hog (Sus.) We are aware that the chorophoneus of the Greek philosopher has been generally identified with the common baboon or the dormice; but neither of these species possesses any character which justifies that assumption; and besides, the dormice is indisputably allowed to be the species designated by the much more appropriate name of cynocephalus (cynocepheus). Nor does the mandrill differ in so general form and appearance from the pilducus of Aristotle, which was the common magot or Barbary ape (Morusbus inusus): there is no very great difference in the size of these animals, their colour is very nearly the same, both are equally remarkable for the powerful muscles of their tails, the character of their short stout limbs; and in fact the only striking difference which exists between them is the prolonged, truncated, svinish snout of the one, and the round and short, and short snout of the other. In cases of accident, for instance, two members of the compound name employed by Aristotle; nor can an objection be fairly taken to the approximation which we have here made of his chorophoneus to the mandrill of Guinea, on account of the extremely limited knowledge which antiquity possessed of the western coasts of Africa; since we know that they were well acquainted with other animals from the same or even a more remote locality; such, for instance, as the gnu (Antilope gala), which is clearly the cebogale of ancient writers, and the pecasso or buffalo of the Gulf Coast.

The females and young mandrills differ from the adult males in the shorter and less protuberant form of the muzzle, which is moreover of a uniform blue colour; the cheekbones have little or no elevation above the face, nor are they marked with the longitudinal furrows which give the other sex so singular an appearance; at least they are far from being so prominently developed. It is indeed true that they have the habit of standing with the maxilla in such a position that these characters are fully displayed in the males, and that the extremity of the muzzle assumes that bright red hue by which it is so remarkably distinguished.

The mandrill is often mentioned by travellers, and bears a different name of emitte, according to the language or dialect of the tribes in whose territories it has been observed. It is described as being amazingly powerful and mischievous, but many traits of its character and habits have been confounded with those of the chimpanzees (Pithecus troglodytes), a very different animal. Its mental character and habits do not differ sensibly from those of the other baboons, except that it becomes, in advanced age, still more morose and taciturn. Those which have been observed in a domestic state are generally very tame, and marked by the same spirit of mischief and picturesque and leisured; a remarkably fine individual, which was long kept at Exeter Change, and afterwards at the Surrey Zoological Gardens, drank his pot of porter daily, and evidently enjoyed it; it was not at all reticent in his little arm-chair, with his quiet pot beside him, and smoking his short pipe with all the gravity and perseverance of a Dutchman. In a state of nature, his great strength and malicious character are marked topics of the most striking character. As a rule, therefore, they generally march in large bands, they prove more than a match for any other inhabitant of the forests, and are even said to attack and drive the elephants away from the districts in which they have fixed their residence. The inhabitation of these countries, they have once passed through the woods unless in large companies and well armed; and it is said that the mandrills will even watch their opportunity when the men are in the fields, to plunder
5. The Drill (C. leucoprhaeus, F. Cuvier) is a species only recently admitted by the most judicious modern naturalists, though long since described by Pennant, and after him by various other writers. It is likewise a native of the coast of Guinea, and, like the mandrill, is distinguished by a short, erect, stumpy tail, scarcely two inches in length, and covered with short bristly hair. The cheeks are not so protuberant as in that species, neither are they marked with the same variety of colours; nor is the size and power of the animal much inferior. The colours of the body bear some resemblance to those of the mandrill, but they are more mixed with green on the upper parts, and are of a lighter or more silvery hue beneath. The head, back, sides, outer surface of the limbs, a band at the base of the neck, and the backs of the fore-hands, are furnished with very long fine hair, of a light-brown colour at the root, and from thence to the point marked with alternate rings of black and yellow, the two last colours alone appearing externally, and by their mixture giving rise to the greenish shade that predominates over all the upper parts of the head and body. The under parts of the body are equally covered with long fine hair, but of a uniform light-brown or silvery grey colour, and more sparsely furnished than on the back and sides; the whiskers are thin and directed backwards; there is a small orange-coloured beard on the chin; the hair on the temples is directed upwards, and, meeting from both sides, forms a pointed ridge or crest on the crown of the head; and the tail, short as it is, is terminated by a small brush. The face and ears are naked, and of a glossy black colour like polished ebony; the cheek-bones form prominent elevations on each side of the nose, as in the mandrill, only not nearly so large; neither are they marked with the same series of alternate ridges and furrows, nor with the brilliant and varied colours, which render that species so remarkable; the palms of the hands and soles of the feet are also naked in the drill, and of a deep copper colour; the colour of the skin, when seen beneath the hair, is uniform dark-blue, and that of the naked callosities bright-red. The female differs from the male by her smaller size, shorter head, and much paler colour; and the young males exhibit the same characters up to the time of their second dentition.

The wood baboon, the cinereous baboon, and the yellow baboon of Pennant, are all manifestly referable to this species, and differ only from the difference of the age and sex of the specimens from which he took his description. The habits and manners of the drill have not been observed in a state of nature, nor do we find the animal itself indicated in the works of any of the travellers which we have consulted. In its native country it is probably confounded with the mandrill, at least by casual and passing observers, but it is frequently brought into this country, and is well known as a menagerie animal. Its habits in confinement do not appear to differ in any material respect from those of its congeners. Those individuals which we have observed in the gardens of the Zoological Society, and in other collections, were all of immature age and growth, and consequently exhibited little of the fierce and intractable spirit of the adult baboons of other species. They were generally sedate and sufficiently gentle, even when not taunted with food or otherwise strongly excited; but the gloomy ferocity of their natural temper was, nevertheless, gradually beginning to show itself in those which had acquired a certain size and strength, and there can be little doubt that the adult males exhibit all the repulsive and malicious character of the kindred species.

Some writers have enumerated two or three other species of baboons, but they are for the most part fictitious, or refer to different ages or sexes of one or other of those which have been described. The C. baboon, which is frequently mentioned, for instance, is confidently declared by Hempnich and Ehrenberg to be the young male of the derrias, C. hamadryas. B' A' BRIS, or B' A' BRUS, according to Suidas, were a portion of the Ethiopians in the Cretan wars, which was captured by the Romans from the island of Chios, and brought into Italy. (See ASP and CHOLAMHIC.) Arianus, in the preface to his fables, states that the fables of Babrius were contained in two volumes, by which he means rolls of papyrus. The ten books mentioned by Suidas are divisions of the fables themselves, such, for example, as the twelve books of La Fontaine's fables. From the manner in which Arianus mentions Babrius in the preface to his Latin fables, and from the occurrence of several verses of Babrius in the Homeric Lexicon of Apollonius, who probably lived about 400 A.D., it is reasonable to suppose that the Babrius was a poet of the fourth century, and very probably may be conjectured that Babrius flourished within half a century before that period. All other circumstances relating to him are however unknown; nor would any of his writings have come to light if it were not for the efforts of the transcribers and redacteurs in the middle ages, as the foundation of their versions of the fables. In some cases the copyist was fortunately contented to transcribe, with only a few variations, the metrical original of Babrius, and thus some of the choruses and verses of this poet have been preserved in the form of prose in different manuscript collections of the fables. A few fables have likewise been preserved accidentally in an entire form, and several fragments are cited in the Lexicon of Suidas. Collections of some of the extant fables and fragments of the poet have been made by several scholars. (See Tyrwhitt's Inscriptionis Babrii; Schneider's Fabule Babri, Romanae, 1812; Berger, Babrii Fabularum Chaldaeorum Septem litterarum; Bishop Bloemfield in the Museum Criticum, vol. 1.; Mr. Burges in the Classical Journal, vol. xxi., and xxxv.; and an article in the Philosophical Museum, vol. 1. pp. 300-304, which last contains a detailed account of the version of Babrius, and an amended edition of his fables.) The language of Babrius is extremely terse and elegant, and his style of narration lively, pointed, and simple; and even the small number of his fables which have been rescued from different manuscripts (about twenty), are, in our opinion, sufficient to put him on a level with La Fontaine, the best and most polished of all those attempts to be regretted in which no manuscript of his fables should have been preserved, which were evidently extant till a comparatively recent period.

ABUAYANES ISLANDS. A cluster of small islands and islets forming part of the Philippines, and lying to the north of Luzon or Loouan, the most considerable of the group. Babuyan, the most northern of the cluster, is in 14° 47' N. lat. and 122° E. long., and is about 15 miles in circumference. Four of these about the same size are estimated as follows:—

Cabilian 19° 26' N. lat. 121° 30' E. long.
Camiguin 19° 28' 121° 56'
Dupon 19° 12' 123° 5'
Fuga 19° 12° 123° 30'

The remainder are little better than rocky islets. The inhabitants of the five which are peopled carry on trade with the Chinese, whom they supply with gold, wax, caunas, and coconuts.

BABYLON, HISTORY. The Babylonians belonged to the Semitic race of nations; their language was an Aramaic dialect, and differed little from the common Assyrian. The existence of their city and empire can be traced back to the epoch of the remotest traditions. In the tenth century B.C., Nebuchadnezzar, the king of Jericho, is mentioned as having formed part of the dominions of Nimrod, and Josephus (Ant. 1. 4. 3) calls him the founder of the city of Babylon. The building of the city and tower of Babel, and the subsequent confusion of languages (Gen. 11:1-9), would seem to indicate a great change of race and language, and an attempt to create a new history of mankind which we find recorded in the Moseian
We learn from Josephus, Rabbelin, and the Aramaic chronicle of Mosaics of Chosene, that the Chaldæans had a similar tradition to account for the origin of the different languages now spoken by men; but it is difficult to determine whether this tradition was independent of, or whether it was derived from, that recorded in the book of Genesis. Diodorus (iv. 27), on the authority of Ctesias, attributes the foundation of the city of Babylon to the celebrated queen Semiramis, and when we read of immense numbers of workmen (two hundred myriads) from all parts of her empire, whom she employed in the execution of her design, we may be inclined to consider it an improvement of the Hebrew narrative, which describes "the children of men" building the tower, until "the Lord scattered them abroad from thence upon the face of all the earth, and they left off to build the city." (Gen. xi. 8.) The name of the city and the town were founded cannot be determined with precision; according to the calculation usually adopted, it happened about two thousand years after the deluge.

Herodotus (i. c. 164) says that the building of Babylon was the work of several successive sovereigns; but among them he distinguishes the two queens, Semiramis and Nitocris, to whom the city was indebted for extensive embellishments along the Euphrates, and for many other improvements. According to Diodorus (ii. 1, &c.), the Assyrian dominions were expanded and consolidated by Sennacherib, who conquered and killed the then reigning king of Babylon, and made himself master of his dominions: the town of Babylon did not then exist, but there were other flourishing towns in the same region as Semiramis, whom he drove out, founded Babylon, and made her his residence. She encircled it with brick walls of great height and thickness, joined the two banks of the river by a bridge (besides a subterranean passageway or tunnel), built a royal palace on each side, and adorned it with statues and monu-

ments in honour of Belus. (Arrian, Exp. Alex., vii. 17.) Soon afterwards Seleucus founded the town of Seleucia in the neighbourhood of Babylon, which further contributed to the prosperity of the place. The distance of Babylon from the time of Diodorus and Strabo, the greater part of Babylonia lay in ruins, and there were corn-fields within its ancient precincts. Curtius says, that at this time only one-fourth of the town was inhabited by true Babylonians, "which makes it evident that a considerable proportion of the inhabitants were Jews." (Babyl., p. 206.)

Babylon, an ancient city of Assyria. Mr. Rich, following Major Rennell in his Geography of Herodotus, is of opinion that the site of Babylon is near Hillah, a town situated on the Euphrates, about thirty miles up the river from the mouth of the canal, a.d. 1101: it is about forty-eight miles south of Bagdad. This opinion is founded on: 1. the latitude of the place as given by Abulfeda, Ebn Hauskal, Edrisi, and other oriental geographers, compared with the situation of Babylon as recorded in the chronicles of the Sasanian kings; 2. the magnitude and extent of the ruins at and near Hillah; 3. its vicinity to the bituminous lakes of Is, or Hit, mentioned by Herodotus as being eight days' journey above Babylon, upon whose site there are now to be seen remains of the Euphrates; 4. the circumstance of the whole surrounding district having been, from the remotest historical time to the present day, distinguished by the name of Babel. Ebn Hauskal, who wrote in the tenth century, calls it Babel. (See Mr. Rennell's Observations, &c., p. 173.) Niebuhr has fixed the latitude at 32° 28' 30".

Herodotus, who visited Babylon, says it was the most celebrated city of Assyria. The kings of the country made it their residence after the destruction of Nineveh. The city, situated in a great plain, was of a square form, each side 120 stadia in length, which makes the circuit 450 stadia. It was so magnificent that none could be compared with it. It was, moreover, encompassed with a wide ditch, deep, and full of water. Besides this there was a wall, 50 royal cubits thick, and 200 high. As soon as the earth was dug out to form the ditch, it was made into bricks, which were burnt in furnaces. Hot bitumen was used to cement them together, and at every thirty or forty cubits a layer of reeds was placed. The sides of the ditch were first built in this manner, and then the walls above them; and upon the edges of the wall they erected buildings, with only one chamber, each opposite the other, between which there were passages enough to pass through: In the wall there were a hundred gates made of brass, as well as the jambs and lintels. The Euphrates runs through the city, and divides it into two parts. Each wall forms an elbow, or angle on the river, at that point a wall is built across the river, and two or three sides of the river are lined with them. The houses were built of three and four stories. The streets were straight, and intersected by others which opened on the river. Opposite the end of the streets small gates of brass were formed in the walls which lined the river. By these gates there was a descent to the river, and there were as many gates as
there were transverse streets. The external wall served for
defence; there was also an internal wall which was not less
strong, but narrower.

The centre of each of these two parts of the town is re-
markable, the one for the palace of the king, of which the
incluse was large and well fortified; the other, for the
place consecrated to Jupiter Belus, of which the gates were
of brass, and in existence when Herodotus wrote. The
sacred incluse was a regular square, each side being two
stades; in the centre was a massive tower, one stadium in
length as well as width, and above this tower was raised
another, and above that again were raised others, until there
were eight. An ascent, which winds round the towers on
the outside, led up to them. About midway in the ascent
there is a resting place and seats, where those who ascended
rested themselves; in the last tower is a large chapel, and in
this chapel a large and magnificent bed, and near a table of gold.

A bridge was built by Ninib, a queen of Babylon, to
connect the two parts of the city divided by the Euphrates.
The piers were formed of large hewn stones, and in order
to fix them in the river the waters of the Euphrates were
turned into a great excavation, leaving the bed of the river
dry. It was at this time that the banks of the river were
lined with the walls, and the descents to the river from the
smaller gates were made. The bridge was built about the
middle of the city, and the masonry was connected with
iron and lead; during the day pieces of squared wood were
laid per pier per which were removed at night lest
the inhabitants on each side should rob one another. When
the bridge was finished, the waters of the Euphrates were
turned back into their ancient bed.' (Herodotus, i. 176-186.)

The fragments of Berouus may be compared with the de-
scription of Herodotus. [See Berouus.]

The ruins of Babylon consist of mounds of earth formed
by the decomposition of buildings, channelled and furrowed
by the weather: the surface of them is strewn with pieces
of brick, bitumen, and pottery. (Rich's Memoir on Babylon.
See also the views of the ruins in Sir Robert Key Porter's
Travels.)

The ruins of the eastern quarter commence about two
miles above Hilla and consist of two large masses or
mounds, connected with and lying north and south of each
other, and several smaller ones which cross the plain at
different intervals. These ruins are terminated on the
north by the remains of a very magnificent temple called
the Mjuettia, from the south-east angle of which a wide
narrow ridge or mound of earth wearing the appearance
of having been a boundary wall, A A. This ridge forms a
kind of circular incluse, and joins the south-east point of
the greatest mound of the town. In the square of ground
mentioned in the road lies the bed of the river; here earthen vases with bones
were found. From the east angle of the ruin B commences
another mound, similar to that marked A, but broader and
longer; this mound is the most southerly of all the ruins.'

[Rich's Memoir.]

On taking a view of the ruins from south to north, the
first object that attracts attention is the low mound con-
ected with the ruin B: on it are two small walls close
beside each other; these walls are only a few feet high,
and a ruin, which is called Jumchama, and formed part of
a Mohammedan oratory, gives its name to a village a little
to the left of it. To this succeeds the first grand mass of
ruins, which is 1200 yards in length and not in its greatest
extent; the area of this mound, where flood-water had
covered nearly a square yard in height is irregular; but the
most elevated part may be about 50 or 60 feet above the level of the plain, and it
has been dug into for the purpose of procuring bricks. Just
below the highest part of it is a small dome, in an oblong
incluse, distinguished by the name of Aman the Arab.

On the north is a valley of 550 yards in length, the area
which is covered with tussocks of rank grass, and crossed by
a line of ruins of very little elevation. To this succeeds the
second grand heap of ruins, the shape of which is a
square of 700 yards length and breadth, and its south-west
angle is connected with the north-west angle of the masses
of Aman by a ridge of considerable height, and nearly 300
yards in breadth.' (Rich's Memoir.)

Mr. Rich considers this the most interesting part of the
ruins of Babylon; and that the buildings here were far
superior to those which are situated to the north east. As
more than 200 yards from the northern extremity of the
mound is a ravine, G, hollowed out by those who dug for bricks,
in length 300 yards, and 18 feet wide by 40 or 50 deep.
One side of it a few yards of wall remain standing, the face
of which is very clean and perfect, and appears to have been
the front of some building. Under the foundations at the
southern end an opening is made, which discloses a re-
semble neat pavement, flowered and walled with large bricks,
in bitumen, and covered over with pieces of sandstone,
yard thick and several yards long; the weight above has
been so great as to have given a considerable degree of
obliquity to the side walls of the passage: the opening is
nearly seven feet in height, and its course is to the south.
The superstructure over the passage is cemented with bitu-
men, other parts of the ravine with mortar, and the bricks
have all writing upon them. The northern end of the
ravine appears to have been pressed by an external wall of
yellowish brick, cemented with a brilliant white
mortal. A little to the west of the ravine at H is the
near by palace, by which appellation Mr. Rich designates
the whole mass. (See the cut under the head of Babylon's
Architecture.) It is a very remarkable ruin, and seems
being uncovered and in part detached from the ruins, is
visible from a considerable distance, but so encompassed
that, in its appearance, that it was only after a minute
inspection that Mr. Rich was satisfied of its being an en-
trace to a Babylonian reman. 'It consists of several walls
and porches, which face the cardinal points, eight feet in thickness
in some places ornamented with niches, and in others
strengthened by pilasters and buttresses, built of bricks
well preserved, and clay, had perfectly clean and sharp
edges, due to such tenacity, that it is almost impossible to cut
with a stone tool. (See the plan of Babylon, by C. J. Rich.)

[Plan of the Memian on Babylon, by C. J. Rich.]
It appears that the walls have been covered with a fine burnt brick to conceal the unburnt bricks, of which the body of the building was principally composed; there is no continuation of this passage to the eastward, choked up with earth. Here Mr. Rich discovered a wooden coffin containing a skeleton in high preservation. Under the head of the coffin was a clay vessel, which, as it was found outside, was a brass bird, and inside an ornament of the same material, which had apparently been suspended to some part of the skeleton. A little further, the skeleton of a child was found; and Mr. Rich was of opinion that the whole passage was used in a religious capacity, and may therefore be conjectured, that the Muelibët was a great brick pyramid for the dead. It may perhaps also have been used for an observatory.

About 70 feet North and West of the Mujelibët, and traces of a very low mound of earth, which may have formed an inclosure round the whole.

Mr. Rich could not perceive any ruins on the western side of the Euphrates, except a large ruin, supposed to be the "Tower of Belus," and some trifling mounds called Anana, near the bank of the river; Sir R. K. Porter shows, in addition, some extensive ruins between these. By reference to the general plan in the preceding page, the reader will perceive traces of them two miles in extent, which ruin has been considered as the ruins of the lesser palace of Alexander, an edifice about which there is no evidence in ancient writers. Further on is the modern village of Tahmasis, and beyond this village is the great town of Babylon. It is situated about six miles to the south-west of Hilla, and is called by the Arabs Bir Nazirom, and by the Jews Nebuchadnezzar's Prison. Mr. Rich describes it at length, with the following remarks:—The city is better built than any town of a similar construction in the plain of lobor, the total circumference of which is 762 yards. At the eastern side it is closed by a deep furrow, and is not more than fifty or sixty feet high; but at the western side it rises in a conical figure to the elevation of the mound, and has a circumference of about 1,100 feet, and is 100 feet high by twenty-eight in breadth, diminishing in thickness to the top, which is broken and irregular, and rent by a large fissure extending through a third of its height. It is perforated by small square holes disposed in rhomboids. The fine brick of which it is built has inscriptions on them, and so excellent is the cement, which appears to be lime-mortar, that it is nearly impossible to extract one whole. The other parts of the summit of this hill are occupied by immense fragments of brickwork of no determinate figure, tumbled together and converted into solid vitrified masses, the layers of brick being perfectly discernible. These ruins stand on a prodigious mound, the whole of which is itself a ruin, channelled by the weather, and ruined by time. The walls are built of unburnt brick, built foot by foot, and are so thick that they are thrown up from the base. In the eastern part, layers of unburnt brick, but no reeds, are to be seen. In the north side may be seen traces of building exactly similar to the brick pile. At the foot of the mound a step may be traced scarcely elevated above the plain, exceeding in extent, by several feet each way, the approach or measured base; and there is a quadrangular inclosure round the whole as at the Mujelibët, but much more perfect, and of greater dimensions. At a trifling distance, and parallel with its eastern face, a mound not inferior to that of the Kasr in elevation, but much longer than broad; on the top of it are two kubbûba or oratories; round the Birs are traces of ruins to a considerable extent. (Rich.)

There are numerous other mounds, some of considerable dimensions, described by Professor Layard, from which it appears to be beyond any possible limits of the ancient city, and some undoubtedly belong to other towns; such, for instance, are the ruins called by the natives Boursa or Brousra, four leagues below Hilla, on the same side of the river. It was, according to the Birs of Ptolemy (p. 739) and Barsita of Ptolemy.

The greatest circuit allowed by ancient writers to the walls of Babylon is 490 stadia. Strabo (p. 739) allows 385. The ancient Cypria Curtius says the city stood on a high land in the inclosure sufficient to support the whole population during a long siege; and Herodotus says that when Cyrus took Babylon, the inhabitants of the central parts of the town were not aware of his danger till some time after, "owing to the magnitude of the city." But more probably

It has been disputed whether the Mujelibët or the Birs...
Nemrud is the remains of the Temple of Belus. Mr. Rich thinks that, in some respects, the Mufeliéh would answer sufficiently well to the accounts of the Hanging Garden, which, according to Strabo, formed a square of four plaths, or 400 feet, on each face, and stood upon the river from which it was supplied with water. Mr. Rich, however, cannot decide, and leaves it to the learned, although it seems that he rather leans towards the opinion that the Birs Nemrud is the Temple of Belus. The difficulty has been increased from the circumstance of the walls of the city not having been discovered. For the opinion of travellers and geographers on the subject, see Niebuhr, D'Anville's Geography, Rennell's Geography of Herodotus, and the Memoir of Rich. See also the Travels of Sir Robert Ker Porter.

It seems exceedingly difficult to reconcile the descriptions of the ancient historians with the actual site of the ruins. Presuming, however, that Herodotus is correct in the dimensions that he has given of the city walls, and that by the centre of the two quarters of the city divided by the Euphrates, is not meant literally the centre, it will not be so difficult to determine that the Birs Nemrud is the Temple of Belus; and at the same time we shall be able to lay down with some probability, that the walls, on the modern plan of the actual site, as drawn by Sir Robert Ker Porter.

It seems to be agreed by all travellers who have visited the spot, that the large masses of ruins on the east bank of the Euphrates are the remains of the fortified palace. Lines of defence surrounding it are apparent even at the present day, inclosing also the Mufeliéh, which we think must be considered as part of the palace, or at least connected with the palace, and not as the Temple of Belus. The plan then (if we may suppose that Herodotus did not affect extreme accuracy in speaking of so extensive an

(inclosure), might be said to be in the centre of the eastern quarter, and, according to the ruins still existing, on the banks of the Euphrates. The bridge also was said to be in the centre of the city, and it is probable that it was built near the palace, A. That part of the embankment, B. on Mr. Rich's plan, which is 300 yards wide and 40 feet high, looks so much like part of the approach to the bridge, that we think it might be taken as one point on a straight line, crossing the Euphrates, and extending to, or nearly to, the Birs Nemrud; on the same line as an arm, and on the diagonal line of the Euphrates were the other lines of the walls, forming a square according to the dimensions given by Herodotus, might be laid down, forming the angle or elbow at the extremities of the diagnal. Having constructed this theory, we find that the Euphrates divides the city into two quarters, and somewhere near the centre of one of them, on the banks of the river, we shall find an enormous palace, and in the other quarter we shall find the Temple of Belus, which, if not in the centre, was quite near enough for the historian's purpose, who describes the place in very general terms; or at any rate was as much in the centre of one quarter as the palace was in the centre of the other. For the purpose of explaining this, we may make the accompanying plan, from the materials furnished by Mr. Rich and Sir Robert Ker Porter. The only way we can account for the entire destruction of so much of the walls as was left by Darus, is by supposing that all the cities within a reasonable distance of Babylon, which have been built out of its ruins, took their materials chiefly taken from the walls themselves. Some of the rubbish may have been thrown by the labourers into the ditch, and the rains of ages may have washed down the earth, and have completely obliterated all traces of the walls. Mr. Buckingham states it as his opinion, that the great ruin at Al Hymer is a part of the great wall of Babylon, between which and the Ksar, he says, that he saw mounds indicating the streets of the city with their transverse streets; and that there were none beyond this ruin. (Buckingham's Travels in Mesopotamia, vol. ii.)

BABYLONIAN ARCHITECTURE AND ANTIQUITIES. The ruins of Babylon do not show any example of one entire building. Architectural combinations, with all their details, such as are seen in Egypt, as the temple, arch, and columns, cannot therefore be ascertained. The great Temple of Belus, as described in general terms by Herodotus, would have a pyramidal form, and would be similar, in some respects, to the Hindú temple at Tanjore, and the great Mexican temple, which, in the other cases, are copies of the Temple of Belus. (See Maurice's Observations on Mr. Rich's Memoir.)

Buttresses and pilasters were component parts of Babylonian buildings, which were sometimes decorated with reliefs; the walls being generally covered with bricks, either burnt in the sun, or burnt in a kiln or furnace. Tiles were also plastered and glazed for the purpose of decorating buildings, and a very fine sort of brick was employed to case these walls built of common bricks or rubbish. The clay was impressed with characters (see Arrow-headed Characters). The clay of which they were formed appears to have been mixed up with chopped straw or reeds. When baked or dry, they were laid in hot bitumen, sometimes in clay-mortar, and sometimes also in a fine lime-mortar. In the bridge over the Euphrates between stones were employed for the piers, and were firmly connected with tiles and lead. They had no idea of constructing a coffer, and, therefore, to lay the foundations of the piers, Nisiroth made the course of the river on the ends of the piers rectangular beams of wood were placed horizontally, so that the Babylonians understood the principle of the arch. A passage-way, discovered by Mr. Rich, was covered with large pieces of sandstone laid horizontally. A passage of Herodotus (t. 167) however might appear by implication to show that the great gate-way in the city walls must have been arched, not in the sense about the jams and lintels of the gate being of brick. He informs us that Nisiroth was buried in the wall above one of the gateways; and that, owing to a supernatural feeling, that gate-way was not used. It is not easy to suppose that the upper part of a large gate-way was supported by beams or any other construction than that of the arch. If we take the testimony of Strabo, the ancient
Babylonians actually did use the arch in forming the substructure of the Hanging Garden (see p. 738): whether the use of the column was inspired by them or not is a question; but his words will bear only one meaning.

That their edifices were highly decorated there can be no doubt. The palace was surrounded by three vast walls, the external wall being 60 stadia in circumference, the second 49, and the third 30 stadia, which Diodorus informs us were ornamented with animals in relief, resembling life, richly painted in their natural colours on the bricks of which they were composed, and afterwards burnt in. (Diod. Sic. lib. i.) Statues were also employed. Rich saw a colossal lion of white granite. The inhabitants, who excava-
ted in the ruins, call all statues which they discover idola; and, as they are of no value to them, they throw them back among the rubbish while excavating for bricks.

The gates of the city were of brass or bronze, as well as the jambs and lintels, and the walls were built of a surprising height and of immense thickness. The Tower of Belus appears merely to have been astonishingly

in some respects, to the pyramids, and did not surpass either them, or probably the great temple of Mexico, in external appearance; and the ornaments of which Xerxes despoiled it convey an idea of barbaric richness rather than taste; all the sculptures which adorned it in the ruins have been executed with the greatest apparent care, speak a barbarous people. Indeed, with a much greater degree of refinement than the Babylonians seem to have been in possession of but a few score years: I will not say, of anything so unpretentious as brick and bitumen. (Rich's Memoir.) For columns they used thick piers: on such piers the Hanging Garden was formed, and the floor laid on the piers was covered with stone (Curtius, v. 1), on which the earth was laid. Timber was scarce, and the wood-work of the houses, which were sometimes of three and four stories, was made of the date tree; round the posts reeds were twisted, on which a coat of paint was laid.

Semiramis is said to have made a tunnel under the Euphrates. The tunnel, according to Diodorus (whose authority is very small), was made like a vaulted passage, not by digging under the bed of the river, but by turning its course, as was done to lay the foundations of the bridges. (Diod. Sic. lib. ii.) It took 160 days to complete, and was 12 feet high and 15 broad; it served as a com-

munication between one palace and the other, which were built, according to the same authority, at each end of the bridge. Semiramis is also said to have erected a stone obelisk 120 feet high. To increase the wonder of Babylonian works, it is added by some modern writers that all the stone used in Babylon came from Armenia. It is now well known that there is abundance of this material above Hit. The beetle used in the building of Babylon is not by any means so tenacious as the mortar. Mr. Rich thinks that lime cement was most generally employed.

In the British Museum there are many specimens of Babylonian bricks. Stones, elegantly engraved, and seal-
rings were in general use among the Babylonians. (Heer- ren, vol. ii. cap. ii. page 203.) Heeren is of opinion that these stones and the engraved cylinders served for sig-
natures. These cylinders were made not only of clay, but of the hardest stones, and the Babylonians had brought the art of cutting these stones to a very high state of per-
fec tion. Heeren mentions a cylinder of jasper, and Sir R. K. Porter another of white agate. Sir R. K. Porter gives some representations of cylinders and Babylonian sculptors. He mentions a vase found in an earthen vessel fished up from the Euphrates close to the ruins of the palace: in it also were found some coins of Alexander and his successors. He considers one of the coins to be a curious portrait of an antient city, and per-
haps of Babylon itself. The cylinders are engraved with hieroglyphics and symbols, and are probably connected with the representations of beasts and men: they are exceedingly curious. (See plates 79 and 80, vol. i. of Sir R. K. Porter's Travels.) There is also, in plate 68, a representation of a woman with a child, and two curious figures in bronze: the cylinders are all perforated.

BACCA, the technical name by which botanists distin-
guish the fruit, commonly called a berry. While, how-
ever, the English word is familiarly applied to all soft or pulpy fruits of whatever nature. Blackberries, bramble berries, strawberries, logan berries, are, strictly speaking, made use of to designate those fruits only which have a thin skin, are pulpy internally, and have several seeds finally lying lose in the pulpy mass; such are the gooseberry, currant, vine, potato-fruit, &c. When a fruit is only a flesh, without any external covering, as is the case with the capsicum, it is not called a berry, but a barried capsule. It will be seen that this definition excludes the berries of the hawthorn, the raspberry, the orange, the rose, &c. [For which see POME, EYARIO, HASPERIDUM, and CYMNARHODON.]

BACCARAT, a town in the department of Meurthe in France, on the banks of the river which gives name to the department, 233 miles E. of Paris, and 27 miles E.S.E. of Nancy. In 1792, the capture of the town was only a foot of a steep hill and in the neighbourhood of a considerable forest. It was a small town in the middle of the last century, for Expilly (Dict. Géog. des Gouless et de la France, 1782) only numbers 272 houses, and mentions only 117, which, allowing six persons to a family, gives 700 inhabitants. Presently there are in the commune above 2800 inhabitants, of whom nearly 1700 are in the town itself. More than 700 workmen are employed in the manufacture of flint glass, (baccarat) both for drinking-vessels and windows, which is in considerable repute. These glass works are said to have belonged to the Bishop of Metz, in whose temporalities the Châtellenie, or manor of Baccarat, was included. There are also some iron works (jorges), and some trade in timber is carried on. Before the revolution there were a convent of Cordeliers and an hospital. Lat. 48° 27' N., long. 6° 44' E. from Greenwich.

BACCHA, in etymology, a genus of the order Dicera, and family Sphagidae. The species of this genus of two

winged flies are peculiar in having the two basal joints of the abdomen remarkably long and slender, with the re-

maining joints depressed, and suddenly increased in breadth. They are generally of a black or bronze colour, with yellow spots or markings; they are met with near London, and fre-

quent flowers.

BACCHANALLA, feasts or festive rites in honour of Bacchus, at which a mixed crowd of men and women, in-

volved with wine, were clothed in skins and Asiac robes, and carrying thyrsi in their hands, ran up and down the country shouting, beating drums and cymbals, and crying, 'Ete! I Bacche! Evan!' &c. They were introduced at Rome, b.c. 197. (Lav. xxxii. 8.) These rites were cele-
bated every third year, and were hence called Triennial. They must be distinguished from the vintage festivals, on which see the article Dionysia.

BACCHIGLIONE, a river in the Venetian States, which has its source in the Alps that divide the province of Vicenza from the Lower Tyrol; it flows in a S.E. direc-
tion, passes through the town of Vicenza, and a few miles below it receives the Astego, another Alpine stream coming from the north; it then crosses the rich plain of Padua, and flows through the towns of Mestre, Treviso, and Padua, below which it enters the Adriatic at Brondolo, opposite to the island and town of Chiogia. The Bacchiglione is navigable for large boats from Vicenza down to the sea. A canal joins the Bacchiglione to the Brenta, and affords a direct communication by water between Padua and Venice. Another canal, called Della Battaglia, runs from Padua to the town of Este, passing by Monselice. The Bacchiglione was called by the Roman poets Minus, Minus, Minus, Minus; it was Major, or modern Brenta. The whole course of the Bacch-

iglione is about ninety miles.

BACCHUS, sometimes incorrectly called Vaeceus, is a Greek writer on music. His work is entitled Eikon, or going, 'An Introduction to the Art of Music,' in questions and answers. Bacchus follows in general the sys-
tem of Aristoxenus. His epoch is uncertain, but it is con-

[North face of the Eraw, from Rich's Memoir on Babylon.]
tured that he lived after Ptolemy. The work of Bacchus is contained in the collection of Meleagros of Hellen. According to the common traditions of the ancient Greeks, one of the personages worshipped under the generic name of heroes, according to the more systematic mythologies he was a demon or genius. His worship has been known from the earliest antiquity (Wachsmuth, Hellen. Alterthum. ii. p. 113) which is the characteristic of a primitive people, and which leads man in his rude state to the worship of the active and productive powers of nature. The common name of Bacchus by the Celts of Britain, and by the Ionians of ancient Greece is a misinterpretation, his imprisonment in the thigh of his father Jupiter, and the various adventures attributed to him, are too well known to need description; and it would take up more space than the nature of this work allows to discuss the inferences drawn by modern writers from supposed analogies and analogical deductions, and especially the description of the mystical character of Bacchus, as distinguished from his worship as the god of wine, may be seen fully developed by Creuzer (Symb. theor. ii. pp. 85, 266, 323-366), whose theory, however, of the Indian origin of the Bacchic rites, though abundantly ingenious, does not appear to be established by sufficient external evidence. The southern coast of Thrace seems to have been the original seat of this religion, and it was soon transferred to the Levant by the Philistines, and later to Greece by the Ionians of the Asiatic coast of the Hellespont. The admission of the identity of Osiris and Dionysus by Plutarch and other mythological theorists, as well as Herodotus's simple statement of the assertions of the Egyptian priests, is no proof of the actual worship of this divinity in Egypt and Greece; but there is no doubt that certain modifications of the Dionysiac rites took place after the commencement of the intercourse of the Ionians with the Egyptians.

The worship of Bacchus is intimately connected with that of Demeter; under the name of Iacchus he was worshipped along with that goddess at Eleusis. [See DEMETER.] Virgil invokes them together (Georgic. i. 5) as the lights of the universe. As to his temples, the rules were the same as those which governed the worship of virtue in the world below. (Herod. ii. 123.) Pindar calls Dionysus ‘the companion of Demeter’ (χηρότορος και δε μος ἄνθρωπος), and in a cameo he is represented sitting by the goddess in a chariot drawn by male and female centaurs. (See Hugnet, Observationes augurales, iii. 429.)

On the form and dress of Bacchus almost all the ancient writers have agreed. Most of the classical artists, like Vaticin in the gigantomachy in the Parthenon in the Parthenon, have given the character of the statues in the Bacchae of Euripides. From these it appears that he was represented as a young man with an effeminate face (θυλακόρρος, Bach. 355; Euseb. Chron. p. 29), with long blond hair (χέλωνας, Apollod. i. 7. 2), with a beak (εἶκος, θείος, νεφελος, x. v. p. 1028), or an ivy crown (Cyc. 593), with a long purple robe and a nebris (deer-skin), and with a thyrsus in his hand. Many of his numerous appellations may be seen in the Index to Wachsmuth, p. 570, and in Oed. Mor. His v. r. m. was his attendant was the Bacchantes, the Leucon, the Naidides and Nymphs, the Thysanai, the Kimallones, the Tyatar. The reader may consult, in addition to the authorities quoted, Müller's Handbuch der Archäologie der Kunst, Brüssel, 1870.)

BACCHYLIDES, a Greek poet and a nephew of the elder Simonides, was a native of the island Coes. He probably lived in the first half of the fifth century before the Common Era, being contemporary of Pindar, though younger than that celebrated poet, and is said to have visited the court of Hiero king of Sicily. His compositions were very various, consisting of hymns, dithyrambic poems, odes in celebration of the Pthian victors, anitomy poems, &c., all of which are now lost except an in full only in the Longinus (6 335) institutes a kind of comparison between Bacchylides and Pindar, but it is so brief and unsatisfactory that the precise meaning of the critic is not seen. The fragments of Bacchylides were published separately by T. de Hovez (1831) and the Society of the people translated in Meravic's edition of Bland's Anthology, pp. 73-80.

BAUCIO DELLA PORTA. This distinguished painter was so named from having resided near the gate of St. Peter, Rome, and he was highly recognized by the name of Fuoco Bartolommeo di St. Mark, his real name being Vitali. He was native of the district of Savignano, and born in the year 1469. He commenced his studies, and passed some years under the tuition of Cosimo Rosselli and Filippo Lippi. He was the father of a modern art, Leonardo da Vinci, that he obtained the first idea of that effective style of colour and chiaroscuro by which his subsequent works are distinguished. He attempted to acquire fixed principles of form and Ideal character from Michelangelo, and, in concert with his friend, Marzotto Albertinelli, he drew and modelled from statues and bas-reliefs with indefatigable attention. It was fortunate that he had made considerable proficiency in those studies previously to his acquaintance with the teachings of Michelangelo; for his subsequent works have exercised a considerable influence over his mind, and by whose fanatical scruples he was induced to destroy, on account of their nudity, a prodigious number of statues which he had made of the human figure. The line of work he undertook was one suited to his whole life; he seldom treated subjects which exhibited the naked form, but the knowledge he had previously acquired of it is perceptible in the fine understanding of the figure, which is visible through his draperies. His early works were of small dimensions, and distinguished by graceful composition and high finishing; but it was in the fresco of the Last Judgment, painted for the chapel of St. Maria Neronis, that the grandeur of his style and the extent of his powers were first most evidently displayed. Over the great altar by the School of Santa Cecilia his name, Bartolommeo being at work in the convent of St. Mark, a forcible entry was made into the monastery by the popes' officers for the purpose of seizing the person of Bertramo; a formidable resistance was made by the monks, and the Pope, however, opened the door of the chapel and committed the sacrilege. 'This event affected Bartolommeo so strongly that he determined on devoting himself to the cloister, and in 1500 he took the habit of St. Dominic. In 1504 Raphael made the famous cartoon between him and Bartolommeo, who communicated to his great contemporary his own principles of colouring, and received from him in return some instructions in perspective. Shortly afterwards Bartolommeo went to Rome. His works, however, seem to have been so overburdened by the contamination of the great works of Michael Angelo and Raffaello, that it was with difficulty he persuaded himself to make any powerful effort; he painted, however, two single figures of St. Peter and St. Paul, which were long preserved in the palace of the Quirinal. Some altar-pieces and other works, nevertheless, executed shortly after his return to Florence, showed that he had profited largely by his visit to Rome. His compositions in his latest works, the Disputation of the Eucharist, the figure of Jesus in the middle of the picture in the Masaccio, his grand treatment of the Anatomy, which not unfrequently gave to their works, both in painting and sculpture, an appearance little short of disgusting. The fine feeling and good sense of Bartolommeo led him to avoid the error, and as a delusion, perhaps overemphasized, induced him to avoid subjects requiring a display of naked form, the jealousy of his competitors availed itself of these circumstances to accuse him of declinacy in anatomical knowledge, and an incapacity to treat any subject demanding an accurate acquisition with the human figure. To refute these aspersions Bartolommeo painted St. Sebastian, the only fault of which was that it was too perfect, the representation of nature being so just and true that the monks forbade it to be publicly exposed in their church. The subject is here in the church of the Saints, Evangelisti, and Madonnas, with the Divine Infant, surrounded by angelic choirs. The French, whom in Italy during the wars consequent on the Revolution, carried off the fine performances, amongst them the Monastery of St. Clare, etc., a grand picture of Evangelisti from the church of the Nuns. These works decorated the Louvre for some time, but were finally restored among the other productions. Varni mentions that number of other works of figures, draperies, &c., had been left by Bartolommeo to a whole museum at Florence. Many of these were in possession of Mr. West, the late President of the Royal Academy, and formed a strong evidence of the real application with which the artist had pursued his studies. Bartolommeo died in the convent of St. Mark, in 1547, aged forty-eight.
BACH, JOHANN SEBASTIAN, whose name holds so conspicuous a place in the musical history of Germany, and from the various branches of whose family have sprung musicians of renown, is the perpetual subject of that annual anthem which every composer attempts to outdo, and to which no attempt ever produced, was born at Eisenach, in the circle of Upper Saxony, in 1685. His ancestor in the fourth degree, Veit Bach, was a miller and baker at Presburg in Hungary early in the sixteenth century, but being obliged to quit his country on account of religious troubles, he settled at a little place near Saxa Gotha. In his leisure hours he amused himself with his guitar, and communicated his taste for music to his two sons, who made it their profession, and taught it to their children, by whom it was handed on, till by degrees six generations have flourished out of this humble beginning, and held among them nearly all the offices of chanters and organists in Thuringia. In the Allgemeine Musikalische Zeitung (1823), is a curious genealogical tree of the Bach family. John Sebastian appearing in the fifth generation, which shows that, down to the middle of last century, there were fifty-eight male descendants from Veit, all of whom, according to Forkel, were professors of music.

When John Sebastian had not quite completed his tenth year, he lost his father, musician to the court and town of Eisenach, and was obliged to claim the protection of an elder brother, organist at Ordruff, from whom he received instructions on the clarichord (see CLAVICHORD), but not such as were proportioned to his facility in learning; he therefore proceeded to Hamburg, through which town he acquired from his relation, who, soon dying, left him again destitute, when he accompanied one of his schoolfellows to Lomburg, and entered the choir of St. Michael's as a soprano singer. There he obtained a good livelihood by his skill; in 1701, however, he found himself once more without resource till 1703, in which year he became court musician at Weimar; but exchanging this place for that of organist to the new church at St. Michael's, a position which he held through his whole life, he found himself more and more interested in the music of his time, and added very much to the number of his compositions; as well as realizing his old dream of having a house of his own in every branch of his science. In 1717 his prince made him director of the concerts, and in executing the duties of this office, he had to compose sacred music for the service of the duke's chapel.

About this time M. Marchand, the celebrated French organist, having visited Dresden, and performed before the king, was offered a large salary if he would engage in his majesty's service. Volumier, then director of the concerts at Dresden, fearing a rival, privately invited Bach to the same court, but being undeceived, suggested the possibility of proposing a musical contest between himself and Marchand, which the organist accepted; but when the day appointed arrived, and a large company had assembled in the theatre, Marchand Count Fleming, the French organist did not appear; upon which it was found that he had quitted Dresden that very day, without taking leave of a single individual. The king desired that a present of 100 Louis d'or should be sent to the challenger, but they never came into his possession.

After this, Bach accepted the office of kapellmeister to the prince of Anhalt-Cotten, in which he continued six years. In 1723 he was appointed director of music and chanter to St. Thomas's School at Leipzig, which place he held with great success for fifteen years. At Anhalt-Cotten, he wrote a funeral cantata, in which are some of his finest double choruses. He now accepted two situations which were more than highly-kapellmeister, Duke of Weissenfels, and court composer to the King of Poland, protector of Saxony.

His second son, Carl Philipp Emanuel, entered the service of Frederic the Great in 1746. The king often expressed a desire to receive a visit from John Sebastian, who did not decline the invitation. The result was an anent, repeated that prince forbade all further resistance. Bach went to Potsdam, just as the king's concert was on the point of commencing: an officer brought in a list of the strangers who had arrived. Frederic, hastily running up, exclaimed, "Come, let us form a choir!" and immediately ordered him to be introduced, without allowing him to change his travelling dress. The concert was suspended, and John Sebastian was allowed from room to room, trying piano-forte, of which there were fifteen in the palace, and playing on several organs. During the evening Bach asked his majesty for a subject on which he might play a fugue. This was immediately given, for the king wrote music very readily, and the fugue was executed most satisfactorily. The royal dilettante then asked for another fugue, to be in six parts, which was immediately executed, to the astonishment of all present. After his return to Berlin, he was presented with an operation which proved unsuccessful, he became quite blind. His constitution now felt the effect of the medical treatment he had undergone, and he continued declining for half a year. Ten days before his death he was suddenly enabled to see again; but in a few hours he was attacked by apoplexy, and after lingering some time, he expired on the 30th of July, 1750, in the sixty-sixth year of his age. He was twice married, and had by his first wife seven children; by his second, thirteen; in all, eleven sons and nine daughters.

So great was Sebastian Bach as an organ-player, that he had only one rival; but this was Handel. On the authority of old Kirkman, the harpsichord maker, Dr. Burney relates that he saw Handel perform in the cathedral at Hamburg, when both performed on the organ of the cathedral; but Forkel, whom we have followed in this article, states most distinctly, that they never came together. Bach's compositions, in almost every class, are very numerous; of these, perhaps none are so famous as the cantatas. The three best known are Tempert, Preludes and Fugues in all the tones and semitones, major and minor. These were composed as exercises for his sons; and while we admit the deep-learning and ingenuity manifested in the display, as well as the vast labour they must have cost, we are heretical enough to think that, as regards effect—and what is music without?—they have been over-valued. His vocal works, in our opinion, are much more likely to convey his name to distant ages, as melodic and inartificial than his organ compositions; but the funeral cantatas before mentioned, a Magnificat, a motet, several chorals, or psalm tunes, and, above all, his Passionmusick, which show that he possessed genius as well as science; that he could not only write laborious fugues, but create pleasing melodies, and clothe these in harmonies as ravishing as recompose.

BACH, FRIEDEMANN, eldest son of Sebastian, followed his father's footsteps as a performer. He preferred playing extempore than anything else; but some of his fugues which are published, are undeniable proofs of his knowledge and talent. He died at Berlin, in 1784, in very distressed circumstances.

BACH, CARL PHILIPP EMANUEL, second son of Sebastian, was appointed at Weimar to be educated as a civilian, but music prevailed, and was adopted as his profession. In 1738 he went to Berlin, and entered the service of Frederic in 1740, in which he continued till 1757, when he succeeded Telemann, as music-director at Hamburg, and likewise became kapellmeister to the king's sister—the Princess Amelia. He died in 1788. Emanuel Bach composed much for the piano-forte, and it has been said that Haydn was much indebted to him for his style. We have never been at Leipzig to see our compositions; and our careful examination of several—certainly not all—of his works, have not been fortunate enough to meet with more than two pieces, or three at the utmost, that at all justify the panegyrics which have been lavished on his compositions.

BACH, JOHANN CHRISTIAN, was educated at brothers, and afterwards of London, was not instructed by his father, but received his musical education chiefly in Italy; his style, therefore, in a style he may be said to have had, exhibits few of the features which characterise the music of his country, of which he came to England in 1763, to compose for the King's Theatre, and produced some operas, which were superior to most of the works then in vogue; but hardly a vestige of any one of them remains. Soon after the marriage of George III, Christian, his brother to Queen Charlotte, which office, at least the salary appertaining thereto, he enjoyed till his death. In conjunction with Abel he commenced and carried on for nearly twenty years subscription concerts, which were
extremely successful. He composed much, and of all kinds, but his works are forgotten, notwithstanding the high esteem in which his biographer in Rees's Cyclopaedia. He died in London, in 1782.

BACHELOR OF ARTS. [See Arts.]

BACKGURGENE, a district in the province of Bengal, situated on the south side of the Ganges, and forming, with that tract, the part of the labyrinth of creeks and rivers which characterizes the delta of the Ganges. Until the beginning of the present century, Backgurgen formed part of the large district of Desaiahapur, the population of which was then estimated at 292,728 souls; and the area of the new district comprised 456,496 square miles.

From its low situation, this district is liable to inundation, and the inhabitants suffer from it constantly. The calamity of this kind occurred about the year 1574, and was soon after followed by an invasion of the country by the Mughas, the combined effect of which events was long ruinous to the district. The quantity of water covering its surface gave shelter to numerous alligators and tigers, which committed great depredations upon the property and the persons of the inhabitants. The country became also the resort of numerous dacoits, or river pirates, who were for a long time as troublesome to the peaceable inhabitants as the robbers themselves. Since the time when Backgurgen has been constituted a separate district, the attention of the Indian government has been turned to its improvement; the land has been in a great measure cleared, which has rendered it a fertile province, and has at the same time dissipated the beasts of prey, while the exertions of a strong establishment of police have been equally successful in suppressing the pirates.

During the periodical rains the lands of Backgurgen are overflowed by the waters of the Ganges, which leaves a slimy and very fertile deposit. This, acted upon by the hot sun, makes the soil exceedingly productive, so that it yields every year two harvests of rice, which are abundant and of good quality, and serve in a great degree for the subjects of this and the neighboring districts. An excessive fall of rain, a large tract of this district was inundated in June, 1822, and great numbers of cattle and houses, together with more than 10,000 inhabitants, were carried off by the flood.

About five-eighths of the inhabitants are Hindus, and the remainder Mohammedans. Several colonies, the descendants of Portuguese who settled here 200 years ago, are living in the southern quarter of Backgurgen: they have degenerated from the civilization of their ancestors to a great degree.

The town of Backgurgen, which is situated in 22° 34', N. lat., and 89° 20' E. long., is about 120 miles east of Calcutta. The courts of justice and of revenue under the British government were formerly stationed here, but when the capital was removed to Desaiahapur, and the district transferred to that place, the courts were removed to Buribhal, which is now the capital of the district. (Hamilton's East India Gazetteer; and Reports of Committees of House of Commons on India.)

BACKGAMMON, a game played by two persons with dice, upon a table divided into two parts, upon which there are twelve points of one colour and twelve of another. Dr. Henry (Hist. of Engl. 4to, 1774, vol. i. p. 601), speaking of the end of the Anglo-Saxon times, says, 'the game of backgammon, it is pretended, was invented in Wales in this period, and derives its name from the two Welsh words bach little, and gommon battle.' He refers for this information to the end of Wotton's Leges Waliae, p. 583. Bishop Kenaston, however, in examining his manuscript collections, gives us a more probable etymology of backgammon from back or backward, and the Saxon gamone or gaming, a game, sport, or play.

The game of backgammon (fifth edition, 12mo, 1748), has treated amply of its practice, and given full directions how to play the different chances, with observations, hints and cautions to be attended to. He gives the following as the laws of backgammon:—1st. If you take a man, it must be by the single man; if you have any man at all, you must make it, and use it, as well as the man taken up. 2d. You are not to re-enter a man until you have placed him upon a point and quitted him. 3d. If you play with force and courage, there is no penalty attending it, because by playing with a long man and then going in with a short, if you play to a disadvantage, by not having the additional

must to make up your tables.

If you have any men to make up of men, before you enter a man taken up, and wheel, consequently, you were obliged to enter, such men, so borne, must be entered again in your adversary’s table, as well as the man taken up. 5th. If you have mistaken your throw and played it, and if your adversary has thrown it, it is met in your throw or his choice to alter it, unless borne. 6th. If the opponent, on your first throw, in the same person, who, by the clergyman, who occasioned Dean Swift, when writing to a friend of his in the country, sarsatantly to ask the following question, 'In what esteem are you with the vicar of the parish? can you play with him at backgammon?'

The older backgammon, after a young Backhuyzen before the windows of his office, and has first delineations were of shaping, done with a pen in a style of extraordinary beauty and correctness. These drawings excited such surprise and admiration, that it amused them at this figure was used, the price of 10, 20, and even 100 florins each. Backhuyzen now determined on relinquishing his commercial pursuits, and devoting himself to art. His first master was Albert Van Eeckhoudt; but not wishing to confine himself to one style, he made acquaintance in the city, and spent a large portion of his time in these studies, until, by sedulous observation, and repeated practice, he had acquired a full mastery in the executive part of the art. But his genius particularly directed him not to be found in the employ of painters, or in the silence of academies. His element was the gale and the storm; nor did he shrink from the perils which accompanied the study of Nature in her storms and most appalling aspects. It was his practice to induce hosts of seamen, by large rewards, to put to sea at times when no other person would venture from shore. Amidst the dash of waves, the roaring of breakers, and the danger of vessels, he was making his sketches with perfect composure, and he had transmitted this terrible scene with a fidelity which can scarcely fail to inspire the spectator with a portion of that terror to which he seemed perfectly insensible himself. He stamped, by this mode of study, a character of truth on his works which could have been communicated by no other method; and he distinguished himself by the perfection of his work, and the inimitability of his style, peculiarly his own, which no rivalry has approached. His works of a tempestuous character, it may be affirmed, are superior even to those of his predecessors, both as to painting, and as to composition. He was successful in subjects of mild and tranquil character. The moment that he landed from his marine excursions, Backhuyzen hastened to his painting-room, nor would he admit the visits of his most intimate friends until he had transmitted his impressions to canvas. He was at all times as audacious, and considering the exquisite finish of his productions, the number of them is astonishing. His works possess, in the highest degree, the peculiar excellences of the Dutch school,—richness, transparency, delicate handling, an appropriate union of the various arts, and an art of giving depth without darkness: frequently, his pictures of an approaching storm, the very atmosphere seem to labour with gloom, yet the clearness, and even vividness of effect are not at all impaired.

Backhuyzen had the good fortune to be appreciated in his own time. His works were eagerly sought after among other important acquisitions, he was employed by the burgomasters of Amsterdam to paint a large picture of the city and the distance; for which he received thirteen hundred guilders, and a present also of considerable value. This picture was sent in, 1665, as a present to Louis XIV., who placed it in the Louvre. Many royal personages honored the artist by erecting statues of his portraits, among the rest, the Col Peter; the latter especially found his taste.
nental affairs gratified by the frequent inspection of his works. He engaged Backhuysen to make designs of various vessels, and delighted to converse with him on the mode of constructing and manuvering them, in which Backhuysen was profusely skilled. At the age of 71, he amused himself with etching a set of views on the Y, near Amsterdam. He died in 1719, aged 78. His pictures are numerous in Holland, and not unfrequent in English collections. Many of them have been engraved, and some were etched by himself.

Although his latter years were embittered by a painful malady, Backhuysen's natural cheerfulness of temper never forsook him. This was strongly exemplified within a few days of his death, when he, a great lover of beauty, was invited to the wine of the choicest quality, on each of which he set his seal. A certain number of his friends were then invited to his funeral, to each of whom he bequeathed a gold coin, requesting them to spend it merrily, and to drink the wine with two sociability that he had consigned it to them.

BACON, ROGER. The little that is known of the greatest of English philosophers before the time of his celebrated nameake, shows how long the effects of contemporary malice might last, before the invention of printing had made an appeal to posterity easy. His writings, destroyed or overlooked, only existed in manuscript or mutilated printed versions, till nearly the middle of the last century. In the mean time tradition framed his character on the vague lines given by his day's acquaintance with the results of experimental science; and the learned monk, searching for the philosopher's stone in his laboratory, added only by infernal spirits, was substituted for the sagacious advocate of reform in education, reading, and reasoning. The uncommonness; rare—the real inquirer into the phenomena of nature.

Roger Bacon died in 1292, in about the 78th year of his age, which places his birth near the year 1214; roughly speaking, he lived from the time of the Interdict in the reign of John, to the beginning of the interference with Scotland in that of Edward I. His age is that of Cardinal Cusa, Thomas à Kempis, Matthew Paris, Albertus Magnus, Raymond Lully, Sacrobeo, &c., to whom we add, as they are sometimes confounded with him, and not for their own note, Robert Bacon (died 1249) and John Bacon (died about 1346).

Roger Bacon was born near Leicester in Somersetshire, of a respectable family. He was educated at Oxford, and, according to the usual custom of his day, proceeded to Paris, which was then the first university in the world. The course of study in vogue, however unfavourable to independence of thought, did not give so great a preponderance to the works of Aristotle as afterwards the raw materials of them connected this day's philosophy of every species. In 1209, a council at Paris condemned and burnt, if not the works of Aristotle, at least the mutilated and interpolated translations from the Arabic which then existed. But when, toward the end of the 13th century, the verses of the Greek began to appear, and the philosophy contained in them to be warmly advocated by the new orders of Franciscans and Dominicans, and particularly by Albertus Magnus (died 1282), the reputation of Aristotle advanced so rapidly, that he had gained the exclusive title of the 'Philosopher' by the time Roger Bacon wrote his Opus Majus. But Bacon in no sense became an Aristotelian, except in that which comprehends all who are acquainted with the opinions and methods of the Great Master. Engaged in the service of his contemporaries, he freely criticises all he meets with (especially the merit of the translations, all which he says he would burn, if he could), and is himself an early and sufficient proof that the absurdities of his contemporaries caught on him, any more than Aristotle himself the 'Philosopher.' Bacon could read Aristotle without danger of falling into idolatry: his contradictions could have erected a system of verbal disputes upon the Facsimile of his books; such an ingenuous scholar would have been at a loss to account for the calm and serene expression of that of Rome (terrificus papae redurgator, says Camden), had opposed Innocent IV., who attempted to appaint his nephew, a boy, to a prebend at Lincoln. On being excommunicated, he pointed the appin to that of Christ; and so prevalent was the opinion of his antipathy to the pope, that a story is gravely told by Knyghton (cited by Blount, Censor., &c.), that the bishop was stoned in London, after his death, and the bishop's Grisly head was brought to the monastery of Nere, upon which we shall presently speak. It has been conjectured that he had already done this before his return to Oxford, but this appears to have arisen from his having been known to have resided in a Franciscan convent while at Paris. From the time of his return, which is stated to have been 1240, he applied himself closely to the study of languages, as well as to experimental philosophy. In spite of the vow of poverty, he does not appear to have wanted means, for he says himself that he kept up a library containing 2000 volumes (French) in books and instruments; a very large sum in those days.

The vow of the Franciscans was poverty, manual labour, and study; but the first two were almost entirely thrown aside from the subject we notice a writing of Bacon, of which (except in Dr. Jebb's list) we can find only one casual notice (in Vossius, De Hist. Lat. art. Bacon). It is said that he was a member of a work of St. Bonaventure, general of his order, which treated of the above-mentioned vow; but which side either party adopted is not stated.

The enmity of his brethren soon began to show itself; the lectures which he gave in the University were prohibited, as well as the transmission of any of his writings beyond the walls of his convent. The charge made against him was that of magic, which was then frequently brought against those who studied the sciences, and particularly chemistry. The ignorance of the clergy of that time as to mathematics or physics was afterwards described by Anthony-a-Wood, who says that they knew no property of the circle except that of keeping out the devil, and thought the points of a triangle would wound religion. Brought up to treat philosophy as nearly allied to, if not identical with, heresy itself, he might be thought of by the believers in its magical power; but we can hardly doubt that there were a few more acute minds, who saw that Roger Bacon was in reality endeavouring to evoke a spirit whose influence would reset the thoughts of men, and allow them to read and reflect, without fear of excommunication, or the necessity of inquiring what council had authorized the book. The following detached passages of the Opus Majus no doubt contain opinions which the authorities of the time considered dangerous. I. 'Most student have no worthy exercise for their heads, and therefore languish and stumped upon bad translations, which lose them both time and money. Appearances alone strike them, and they do not know what they are...'
circumstance as the preceding, if true, could come to be known. But perhaps the memory of the complaint may have been recalled to Bacon, and the willingness with which succeeding popes continued Bacon's imprisonment, to which we shall soon come; for though they might hold his spirit guiltless of the death of Innocent, they long remembered what he had done in the past. when Edward I. and the University of Oxford, long after, applied to Clement V. for the canonization of Grossetete, they received for answer that the pope would rather his bones were thrown out of consecrated ground.

In the mean time a pope was elected, to whom we owe the instance above referred to, without mentioning his name. This was Clement V. (elected 1363), who had previously, when cardinal-bishop of Sabina, been kgsate in England. Here he had heard of Bacon's discoveries, and earnestly desired to see his writings. A letter was sent for him, the payments of the Franciscans prevented his being complied with. After his election as head of the Church, Bacon, conceiving that there would be no danger or impropriety in disobeying his immediate superiors at the command of the pope, wrote to him, stating that he was now ready to send him whatever he wished for. The answer was a repetition of the former request; and Bacon accordingly drew up the Opus Majus, of which it may be presumed he had the materials ready. It appears that he had mentioned the circumstances in which the author's answers were given him, as he was at work with haste, any command of his superiors or constitution of his order notwithstanding, and also to point out, with all secrecy, how the danger mentioned by him might be averted: and that a letter was sent in year 1367, by the hands of John of London, a pupil of whom he speaks highly, and who has usually obtained some notice from the very great praise which Bacon in one place appears to give him, when he says that he only knows two good mathematicians, namely, John of London, and himself, and had named.

But from some other circumstances Dr. Jebb concludes, with great probability, that the latter of the two was John Pescam, a London Franciscan, afterwards archbishop of Canterbury, who was well known as a mathematician. Before he wrote to Bacon, the Pope had already condemned Bacon, and he had promised to write nothing whatever; and afterwards, as he says to Clement, he would have composed many books for his brother and his friends, but when he despaired of ever being able to communicate them, he neglected to write.

With the Opus Majus he sent also two other works, the Opus Minus and the Opus Tertrum, the second a sort of appendix to this. In the third and last, Opus Tertrum, he has written that he has not had the time to pursue his former labours, and that of the two, that of writing a great book has been written in a year and a quarter, and that of the other in two, and that of the whole in twelve. He says that the whole consists of 200, 000 lines, and that the whole work was completed in the year 1367.

The two succeeding pontiffs had short and busy reigns; but on the accession of Jerome (Nicholas IV.) Bacon once more tried to attract notice. He sent to that pope, it is said, a treatise on the method of retarding the infirmities of old age, the only consequence of which was increased rigour and closer confinement. But that which was not to be obtained from the Universities of Oxford and Paris, was conceded to private interest, and Bacon was at last restored to liberty by the intercession of some powerful nobles, but who were not mentioned. Some say he died in 1369; but the best authentic date we have is that of his return to Oxford, where he wrote a compendium of theology, and died some months, or perhaps a year and a half, after Nicholas IV. (who died April, 1392). We have adopted 1392 from Anthony à Wood, as the most probable and likely, though the exact date of his death is not known, as he died in 1394. He was buried in the church of the Franciscans at Oxford. The manuscripts which he left behind him were immediately put under lock and key by the magic-fearing survivors of his order, until, not so luckily as those of another wizard, Michael Scott, they are said to have been eaten by insects.

Of the asserted works of Bacon there is a very large catalogue, cited mostly from Bale and Pits, in the preface to Dr. Jebb's edition of his Opus Majus. They amounted to live on grammar, six on pure mathematics, six on pure mechanics and general physics, ten on optics, six on geography, seven on astronomy, one on chronology, nine on chemistry and alchemy, five on magic, eight on logic and rhetoric, four on politics, and two on several miscellaneous, a hundred and one in all. It is most likely that the greater part of these were extracted from the Opus Majus, &c., with separate titles, that some are not genuine, and that others are more properly attributable to the two other works: and that the greater part of the Opus Majus are, one in Trinity College Library, Dublin, discovered by Dr. Jebb, which forms the text of his edition, two in the Comitanian Library, one in the Harvard Library, three in the Library of Corpus Christi College, Cambridge, one in that of Magdalene College, two in the King's Library, containing various parts of the work. These are independent of the Opus Minus and Opus Tertrum in the Comitanian Library, already mentioned, of some in Lambeth Palace, in the Bodleian Library at Oxford, and a manuscript in Dr. Jebb's possession. The Dubbin manuscript is the only entire one with which Dr. Jebb was acquainted. It is a folio of 249 leaves, beautifully written on thick paper, with a good margin, and in double columns. It is not dated. It contains the whole of his Tertrum, and has been judged to be of the reign of Henry VIII., or perhaps the early part of that of Elizabeth. The geometrical figures are neatly drawn in the margin. Pope Clement's letters are in the Vatican library.

Both of printed and manuscript works there have followed:—Perspectiva, Frankfort, 1414; De Spectu and Spectra Mathematica, Frankfort, 1614, reprinted in 1671; De Mirabilis Prose Artis et Naturae, Paris, 1512; Girard, De Cempe, Prouence, 1629; Saucy, Le Project du gnomon, 1620 (translation of the preceding), Paris, 1537, reprinted in 1577; Sciprta quaedam de Arte Chimica, Frankfurt, 1683 and 1620; Speculum Alchymia, and De Secretis Operibus Artis et Naturae, et de Nuditate Magistrum, in voce, u. and v. of Zeuner's Theatrochimicum, Strasbourg, 1659; Of Opus Majus, edited by Dr. Jebb, London, 1732; De tertia specie, Accidentibus, Oxford, 1590, translated by Dr. R. Brown, London, 1683. In a volume of treatises on alchemy, London, 1537, there are two attributed to Bacon. In the latter part of Bacon's life, he had removed his residence there, to another convent of his order), where a council of Franciscans, with Jerome at their head, condemned his writings, and committed him to close confinement. At this time, in 1537, having been convicted, by the charge of innovation was the pretext, but of what kind was not specified: according to others, the writings of Bacon upon astrology were the particular ground of accusation. We cannot learn that any of his work was made to the service of science, and that it was used in such cases; which, if we may judge from the Opus Majus, Bacon would have conceived himself bound to accept, at least if he recognized the legality of the tribunal. A case of this kind, the proceeding was immediately obtained from the court of Rome. During ten years, every step made by him to procure his enlargement was without suc-
instance, intender to in animo habere, meaning the same as our word to intend; præsumere for sibi arrogare in the sense of to presume. We should perhaps rather say that the English words receive their meaning from the corrupted Latin, and not vice versa, in which case the work of Tacitus may become useful in tracing the change, and the more so on account of the great simplicity of the style.

The charge of heresy appears to be by no means so well founded as a Protestant would wish. Throughout the whole work it is clear; he not only says what he says, he expressly submits matters of opinion to the authority of the church, saying (Cott. MSS. cited by Jebb) that if the respect due to the vicar of the Saviour, vicarius Salvatoris, is to be consulted in any other way than by the progress of philosophy, he would not, under such impediments as lay in his way, proceed with his undertaking for the whole church of God, however much it might entreat or insist. His zeal for Christianity, in its Latin or Western form, breaks out into pages: and all science is considered with direct reference to theology, and not otherwise. But at the same time, to the credit of his principles, considering the book-burning, heretic-hunting age in which he lived, there is not a word of any other force except that of persuasion. He takes care to have both authority and reason for every proposition that he advances: perhaps, indeed, he might have experienced forbearance at the hand of those who were his persecutors, had he let things be said about himself. He and his fathers have been partakers of his opinions. * But let no one Serenity imagine,* he says, *that I intend to excite the clemency of your Holiness, in order that the papal majesty should employ force against weak authors and the multitude of his detractors.* 1601 The matter is too self evident to be fully brought to study. Indeed the whole scope of the first part of the work is to prove, from authority and reason, that philosophy and Christianity do not disagree; a sentiment altogether of his own revival, in an age in which all philosophers, and mathematicians in particular, were considered as no longer than deists. However, Bacon's principle in his treatise is that science is the means of acquiring philosophy, and not the other way about

**The reason of Bacon is generally quite dependent upon his premises, which, though often wrong, seldom lead him into error.** Upon the whole, the character of the great man is formed partly upon his philosophy and alchemy, those two great letters upon his character, as they are usually called, are, when considered by the side of a later age, harmless modifications, irrational only because unproved, and neither impossible nor unworthy of the investigation of a philosopher, in the absence of preceding experiments. His astrology is physical. * With regard to human affairs, true mathematicians do not presume to make certain, but consider how the body is altered, and the body altered, how the sun is excited to produce certain effects. Few, in fact, will accept all the works of the world. An age which is divided upon the question of the effect of the moon upon lunatics, and of which the philosophers have collected no facts decisive against many alleged effects of the same. The druids and the blood priests of the thirteenth century that he should not be too positive. The fame of Leibnitz has not suffered from the pre-established harmony one half as much as that of Bacon from his astrology and alchemy, which were believed in to a much greater extent by many of the learned of his time and the united effect of which would seem to us sense and logic, compared with the metaphysical folly, all his own, of the eminent philosopher just cited.

The telescope appears to have been firmly believed in by Bacon, and in particular the effect of the constellations on the several parts of the human body. Perhaps he was rather prejudiced in favour of a doctrine which was condemned by the same men who thought mathematics and philosophy favour'd of heresy. And it must be remembered that the pretended science was almost universally allowed existence, even by those who considered its use unlawful; nor can we infer that the church disbelieved it, because that body discouraged it, any more than that it regarded it as a necessary part of the literature of the age. We must draw a wide distinction between the things which Bacon relates as upon credible authority, and the opinions which he professes himself to entertain from his own reason, in which case the works of Roger Bacon were very little publishing, a book which was written in one country, found its way but slowly into others, one copy at a time; and a man of learning seldom meets those with whom he could discuss the probability of any narrative. The adoption of the principle that a story must be rejected because it is strange, would then have amounted to a disbelieve of all that had been written upon physics; a state of mind to which we cannot conceive any one of the great men of the age would have been likely to decide what opinion to form of Bacon as a philosopher, until we know how much he believed, as well as how much he believed. These remarks apply particularly to his statements of physical experiments. He might be told that he had made gold himself, but that others that asserted themselves to have made it, and his account of the drink by which men had lived hundreds of years is a relation taken from another. Voltaire, in his Philosophical Dictionary, has overlooked this distinction, and says that, "we have no right to assume any strange matter that Bacon, who (if the Speculum Alchemiae be really his, of which, from the style, we doubt) believed with many others that sulphur and mercury were the first principles of all bodies, should endeavour to compound gold, or should give credit to the assertions of those who professed to have done so. But there is not in Bacon's alchemy any direction for the use of prayers, fasting, or planetary hours. The great points by which Bacon is known are his repelled knowledge of gunpowder and of the telescope. With regard to the former, it is not at all clear that what we call gunpowder is intended, though some detoning mixture, of which saltpetre is an ingredient, is spoken of as commonly known. The passage is as follows:

> Some things strike terror on the one side, because of the danger of throwing vast clouds of all a man can do to the salt called saltpetre, so horrid a noise is made by the rupture of so slight a thing as a bit of parchment, that it is thought should be kept out of thunder, and the flash is stronger than anything in the air.

There are passages in the work De Secretis Operibus, &c. (cited by Hutton, Dictionary, art. Gunpowder), which expressly mention sulphur, charcoal, and saltpetre as ingredients. But, independently of the claim of the Chinese and Indians (see Gunpowder), there is an author, Marcus Graecus, whose work, Liber Ignium (now existing only in Latin translations from the Greek), is cited by Dr. Jebb from a manuscript in the possession of Dr. Mead, and who appears to have been a gunpowder manufacturer much earlier than Bacon. Dr. Hutton, into whose hands Dr. Mead's manuscript passed, found this writer mentioned by an Arabic physician of the ninth century. Graecus gives the receipt for gunpowder, namely, one part of sulphur, two of willow, and three of saltpetre. There is reason to think that Marcus Graecus were also found in the Royal Library of Paris. See Marcus Graecus.

With regard to the telescope, it must be admitted that Bacon had conceived the instrument, though there is no proof that he carried his conception into practice, or invented it. His words are these:—*We can so shape transparent substances, and so arrange them with respect to our sight and objects, that rays can be broken and bent as we please, in such a way, that objects which are not seen by the naked eye we please: and thus from an incredible distance we may read the smallest letters, and number the grains of dust and sand, on account of the greatness of the angle under which we see them; and we may manage so as hardly to see bodies, when near to us, on account of the diminution of the angle under which we cause them to be seen: for vision of this sort is not a consequence of distance, except as that affects the magnitude of the angle. And thus a boy may seem a giant; and a man most exactly portrays a true description of a telescope; but if Bacon had constructed one, he would have found that there are impediments to the indefinite increase of the magnifying power; and still more that a boy does not appear a giant, but a boy at a distance; and a man because he is far away.*
ence, down below, and stand over the head of the enemy. At the same time it is worth notice, that these ideas of Bacon did, in after times, produce either the telescope, or some modification of it, consisting in a large magnifying glass, and by that means, almost before the date either of Jansen or Galileo. Thomas Digges, son of Leonard Digges, in his Stratiotikon, London, 1590, page 339, thus speaks of what his father had done, in the presence, as he asserts, of numerous persons. It was such a work as his Faerie and happy success, not only in these conclusions, but also in their Opticks and Catoptricks, that he was able by Perspicuous Glasses, duly acutate upon concave angles, in such sort to discover even the image of a man, or other creature, out of the room, so that the same beams might pierce: as sithence Archimedes (Bakon of Oxford only excepted) I have not read of any in action ever able by means natural to perform the like. While partly grown by the aid he had by one old written book of the same Bacon's Experiments, that by strange adventure, or rather Destine, came to his hands, though chiefly by owning continual lawful Practice with his Mathematicall Studies."

And the same Thomas Digges, in his Pantometria, London, 1591, Preface, repeats the same story, with more detail, omitting, however, all mention of Bacon. He says that his father—"sundrie times hath by proportionall Glasses duly acutate upon concave angles, in such sort as to discover even persons without the room; and once by one of such glasses he saw a man of foreign parts, cast by some of his freinds of purpose upon Downes in open fields, but also seven miles off declared what hath been done and what was permitting, or privat. There is yet living dierse of (these his doings) Oculati Testes.

"We must refer, for further details, to the article Telescope."

The question has been agitated whether the invention of spectacles is due to Bacon, or whether they had been introduced just before he wrote. He certainly describes them, and explains why a plane convex glass magnifies. But he seems to us to speak of them as already in use. Hence the invention is useful to old persons and those who have weak eyes."

The Optica Magnes begins with a book on the necessity of advancing knowledge, and a dissertation on the use of philosophy in theology. It is followed by books on the utility of grammar and mathematics; in the latter of which he runs through the various sciences of astronomy, chronology, geography, and music. The account of the inhabited world is long and curious, and though frequently bổrtant, it is, or the feelings of Pons, contains many new facts from travel of his own. The last book he devoted to the science of philosophy, insisting on the peculiar advantages of the latter. The explanation of the phenomena of the rainbow, though very imperfect, was an original effort of a character altogether foreign to the philosophy of his day. It attributes it to the reflection of the sun's rays from the cloud; and the chief merit of his theory is in the clear and philosophical manner in which he proves that the phenomenon is an appearance, and not a reality. Between the two last-mentioned books is a treatise on the Social condition of the Species, entirely filled with discussions somewhat metaphysical upon the connection and causes of phenomena.

Our limits will not allow us to enter further into details; nor could we, in any moderate space, do justice to the varied learning of the author, or distinctly mark the principal of the numerous singular and now exploded notions which are introduced; nor, as far as we know, does there exist any full account of the contents, to which we can refer the reader."

BACON, SIR NICHOLAS, father of Sir Francis Bacon, and Lord Keeper of the Great Seal of England during the first twenty years of the reign of Elizabeth, was descended from an ancient and wealthy family in Suffolk, which had been in the county a governor for several generations. He was the second son of Robert Bacon, of Drinkin, in Suffolk, by Isabel, daughter of John Gage, of Pakenham, in the same county, and was born in the year 1551 at the same place, in Kent. The biography of his early years is uncertain; he received his schollastic education at Benet's (Corpus Christi) College, Cambridge, and after finishing his course of study there, spent a considerable time abroad, and particularly at Paris, for the purpose of acquiring a knowledge of the works of antiquity. On his return he kept his terms at Gray's Inn, and was called to the bar in that society. In consequence of the absence of detailed reports of the proceedings of courts of justice in the reign of Henry VIII., the professional course of an advocate was not in those times what it is at present. In the meantime he succeeded in gaining a considerable practice in the court of Chancery, and was finally appointed to the office of attorney of the Court of Wardens, a place of considerable emolument and responsibility. He continued to hold the latter office during the reign of Edward VI., his patent being renewed immediately upon the accession of his successor. Upon the dissolution of the monasteries, in 1539, Sir Nicholas Bacon prepared and presented to Henry VIII. a written project for the formation of a college for the study of politics and diplomacy, to be endowed with part of the property of the dissolved religious houses. The design was to instruct the students, in the first instance, in a competent knowledge of the French and Latin languages, and then to send them abroad with the king's ambassador, to acquire a knowledge of foreign affairs. Some of the persons thus educated, were to be appointed to write the history of all embassies, treaties, and other foreign transactions, and also of all public trials and important judicial proceedings at home; but before any of them were called to the bar, they were to take an oath before the Lord Chancellor that they would do it truly, without respect of persons, or any other corrupt affection. This design miscarried, probably, as Burnet suggests, because the king, ' before he was aware of it, had already by his tarditatem his bounty, that he would bring any such projects to effect.' (History of the Reformation, vol. i. p. 269.) Having adopted the Protestant faith, Sir Nicholas Bacon was of course excluded from all favour or employment during the latter part of the reign. On the accession of Elizabeth, he was selected, with Sir William Cecil, Sir Francis Knollys, and several others of the Protestant party, to be of her privy chamber, and to qualify the influence of those of the Catholic party whom she thought prudent to retain as her advisers. With Cecil he was connected not only by opinion and politics, but by relation also, as they both married daughters of Sir Anthony Cooke, of Giddy Hall, in Essex. In December, 1558, the queen dismissed the Lord Chancellor Heath, who was also Archbishop of York, and putting Sir Nicholas Bacon in his place, the keeping of the seal in former regna had no dignity nor authority attached to its office, having merely the temporary custody of the seal, until the appointment of a Lord Chancellor. As soon as the queen perceived these qualifications were required. Sir Nicholas Bacon, conceiving it to be inexpedient that doubts should exist respecting the extent of his authority, advised the queen to make the appointment by letters-patent, which rendered the office permanent, and expressly gave him all the rank and authority of a Lord Chancellor. 'His not being raised to that high title, says Burnet, 'perhaps flowed from his own modesty; for, as he was one of the most learned, most pious, and wisest men of the nation, to be ranked in all his greatness a modern equal to what the eminent Greeks and Romans were adorned with to their highest advantage.' (History of the Reformation, vol. i. p. 380.)

On the 25th of January, 1559, Sir Nicholas Bacon opposed the first parliament of Elizabeth with a discreet and temperate speech, recommending in particular to the Lords and Commons a candid consideration of the religious differences which then agitated the nation, with a view to their necessary arrangement. This speech, which is given at length in the Biographia Britannica, and is a diffuse and redundant style of that age, is an extremely judicious performance, well calculated to conciliate entendings factions and to remove the difficulties by which English religion was at that time involved. It is among the most popular writings on this subject that have been written in the reign of her majesty. One of the most serious of these disturbances was the settlement of religion, and in this work Sir Nicholas Bacon was an important instrument both in counselor and in action. In March, 1559, the queen appointed a public conference to be held in Westminster Abbey, for the purpose...
of discussing several controverted points in the doctrines and ceremonies of the Church of Rome. It was agreed that some divines should argue on each side, and Sir Nicholas Bacon, as Lord Keeper, was nominated president or moderator. The conference ended abruptly, in consequence as it was asserted by the Protestant party, of a breach of order on the part of the Catholic divines, some of whom were in consequence commanded by the Lords of the Council to the Tower, and others were required to give security to answer for disorderly and tumultuous proceedings.

Bacon's intimacy with Sir William Cecil, as well as his own upright and manly conduct, enabled him generally to retain the favour of the queen; but in 1564 he was suspected of having approved and even assisted in writing a book denouncing Henry the Eighth, and was imprisoned at the castle of Mary, Queen of Scotland, to succeed, after Elizabeth, to the English throne. At that time Elizabeth entertained a project of marrying the Earl of Leicester to the queen, and both showed that powerful influence was greatly exercised at the appearance of this book, which was expressly complained of by Mary's ambassador. Hales was committed to the Tower, and the Lord Keeper, who is said not to have had more hand in the book than Sir William Cecil, was dismissed from the privy council and from court, and discharged from all interference with public affairs except in the Court of Chancery. Anthony Wood says (Addenda, vol. i. p. 177, ed. 1721) that it was contemplated to impeach him at the bar, but the queen was glad to receive him to the court. At the council, in the reign of Mary, had been Chief Justice of the Common Pleas, but that he refused to accept it. At length, however, by the assistance of Cecil, who continued through life his firm friend, Bacon succeeded in obtaining for himself the post of ambassador to the queen; and he from this time until his death appears to have enjoyed her favour and full confidence without interruption. In 1577 the queen visited him at the splendid mansion which he had lately built at Cobham, in Hertfordshire, and it was to this that occasion that the anecdote refers which is related by Lord Bacon in his Apologism. Upon the queen's telling him 'that his house was too little for her,' he happily replied, 'Not so, madam; but your majesty is the greatest house in the world.'

Sir Nicholas Bacon died on the 20th of February, 1579, in the 70th year of his age. The character of his mind, as given by his son, Lord Bacon, appears to be just and accurate, and is quite consistent with all the facts which are recorded of his life and conduct. 'He was,' says he, 'a plain man, direct and constant, without all finesse and doubleness, and one that was of a mind that a man, in his private proceedings and estate, and in the proceedings of state, should rest upon the soundness and strength of his own opinions and not upon another's.' Many speeches of Sir Nicholas Bacon as Lord Keeper upon formal occasions will be found in the parliamentary history of the first twenty years of Elizabeth's reign, and several addresses by him to judges on being called to the bench are still extant. His maxims and observations are replete with good sense and sound doctrine. The following observations on judicial delays, contained in his address to Sir Roger Manwood on being sworn in as Lord Chief Baron, are a fair specimen of his remarks on similar occasions: 'Certain it is,' says he, 'that albeit a judge be fully furnished with knowledge, discretion, and integrity, yet if he be slothful and do not expedite his judgments, but delays the same when the causes be ready to be judged, then he is not only a delinquent, butserve to small purpose for the furtherance of justice; for true it is that a cause ready to judgment, and delayed by the judge, is a plain point of injustice; and as a wrong judgment is a perpetual injustice till it be reversed, so is that of justice that cannot in time be performed. For this judgment be given, quia distulit, nisi noluit. Again, the subject many times doth not only consume himself and his substance in unnecessary delays, but it happeneth also that some care be wanting for him to improve his unjust judgment speedily given against him, before he had consumed himself, than, being consumed and undone, to have just judgment done unto him which will be small relief. Of his decisions and judgments in the Court of Chancery, records remain, among other manuscripts in the British Museum (No. 29), a very sensible judicial opinion pronounced by him upon the question whether a pear of the realm is privileged from an attachment from the Court of Chancery for disobedience to a decree or order of that court. This question he decided in the negative.

BACON, FRANCIS, the youngest son of Sir Nicholas Bacon, was born at York House in the Strand, on the 2nd of January, 1561. In boyhood he was sprightly and intelligent beyond his years. The Queen, who was taken with the smartness of his answers, tried to try him with questions on various subjects; and it is said, that once when she asked him how old he was, his reply was ingenuously complimentary:—'I am just two years younger than your Majesty's happy reign.' Elizabeth expressed her approbation by calling the boy 'her young Lord Keeper.' Nothing is known of his early education. Having, however, parents of a superior order—a father distinguished as a lawyer and a statesman, and a mother gifted with uncommon abilities, and eminent for her learning and piety, Bacon was placed favourably, from the first, for the formation of a learned and a virtuous character.

In his thirteenth year he was sent to Trinity College, Cambridge, and was placed under the tuition of Dr. Whitgift, at that time master of the college, and afterwards Archbishop of Canterbury. Here Bacon studied with diligence and success. The following fact, connected with his residence at college, has been stated and authenticated by Dr. Rawley, his chaplain and biographer:—'Whilst he was commontor at the university, about sixteen years of age (as his Lordship hath been pleased to impart unto myself), he first fell into the dislike of the philosophy of Aristotle. Not for the worthlessness of the author, to whom he would ever ascribe all high attributes, but for the unfruitfulness of the way—being a philosophy (as his Lordship used to say) only strong for disputations and conceptions, but barren of the production of works for the life of man. In which mind he continued to his dying day.'

Bronze medal, British Museum. (From the series of Dicey medals.)

On leaving Cambridge, he entered Gray's Inn as a student of law. It is likely that his admission was in Michaelmas term, since it appears, from the records of the inn, that he was called to the bar in 1580. He was one of the King's Council on the 21st of November 1576—an honour usually conferred on barristers, but bestowed on the sons of judges in consequence of their birth. His attendance in London not being required for some years, by the regulations of his inn, Bacon was sent, in compliance with a custom at the time common among the nobility, to study the institutions and manners of other countries. He went accordingly in the suite of Sir Amiss Paulet, the British ambassador to the court of France. His superior sagacity and discretion soon induced the ambassador to intrust him with a message of some delicacy and importance to the Queen; a commission which Bacon executed so as to obtain the royal approbation. On his return to Paris, he made frequent excursions into the country, spent some time in Poitiers, and busied himself in collecting information on the characters and resources of the different princes of Europe. His work (Of the State of Europe, in which he arranged and estimated the information thus collected, and which was written when he was between fifteen and twenty years of age, displays conclusively the industry, guided by deep penetration, which characterised his youthful mind.' He places everything in the light which best shows its nature as a political element. He estimates the different weights, in the scale of national importance, with an industrious and philosophical soberness—a justness of discrimination, and a nicety of fact and science, which give us not merely a knowledge of the subject, but also an insight into the state of his mind, prompted to
make such observations by the early influence of that ambition which was the spring and life of his career.

His studies abroad were interrupted by the death of his father. Following his father's advice to leave London on that occasion, he found himself the only one of his family left unprovided for; his father having been prevented by the suddenness of his death from purchasing an estate with the money set aside for his youngest son. Instead of the whole, Francis received only a small part, which had been advanced him 'to defend and support his youth.' When a student in Gray's Inn, he divided his time between law and philosophy; and nothing can be more false than the fustian of his biographers about daily duties being so fully discharged that he had leisure for the higher duties of legal investigation. He was early a proponent in law, and the knowledge which he attained could only have been acquired by a bent of mind suited to its investigations. Law was his principal study. Though when a student he sketched his great work, the "Oceana," in a piece which his youthful pride entitled Partus Temporis Maximus, the Greatest Birth of Time, his studies were chiefly directed to legal subjects.

On the 20th of June, 1582, he was called to the bar. His practice soon became considerable. In 1586, four years after, he was made a bencher. In his 28th year he became counsel extraordinary to the Queen. In 1588 he was appointed a reader to his Inn; and again, in 1600, the King of Arms; on which occasion the opinion of his professional acquirements held by those who were best able to judge of them, since the duty of reader was generally discharged by men of eminence in the profession, and seldom by persons so young as Bacon in years and standing. The record of the first royal appointment in his name as counsel on reading on the Statute of Uses has been re-published several times, first in 1642; and in 1604 it was edited by William Henry Rowe, as a work of high authority on the difficult subject which it investigates. It was connected with the most powerful family of Elizabeth's reign,—the nephews of Lord Burleigh, and the cousin of Sir Robert Cecil,—his advancement corresponded neither to the natural influence of his talents nor the appearance of his face in what related to the sermons on the Statute of Uses, and the two cases in which he defended theDIVORCE. His eloquence on his counsel's reading on the Statute of Uses has been re-published several times, first in 1642; and in 1604 it was edited by William Henry Rowe, as a work of high authority on the difficult subject which it investigates. It was connected with the most powerful family of Elizabeth's reign,—the nephews of Lord Burleigh, and the cousin of Sir Robert Cecil,—his advancement corresponded neither to the natural influence of his talents nor the appearance of his face in what related to the sermons on the Statute of Uses, and the two cases in which he defended the

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tended. Successful in his profession, and a favourite with the people, he added to his good fortune a rich wife, Alice, daughter of Benedict Barnham, Esq., a wealthy alderman of London. He had, in addition to the emoluments of the office to the king, an undertaking with which he was intrusted by the Commons, without lessening his influence at court, increased his popularity among the people. His speech on exchanging the ancient tenures of the crown for a comparative revenue, which he addressed to the commons, was celebrated throughout the kingdom by its clearness and eloquence. Though engrossed with the affairs of public life, his engagements did not turn him aside from his great design—formed in his early youth and cherished in his maturer years—the development of his impenetrable to himself. He wrote to the secretary of state: "The ground-work of my Novum Organum Scientiarum, my Cognitio et Vies, and sent copies of it to his learned friends for examination and criticism. The Philet Labyrinthus was the original draught of his Cognitio et Vies. The author of original and unpopularity (because new opinions in philosophy, Sir Francis Bacon, exercised the utmost prudence in the publication of his views, adapting the light to the visual organs of others so as rather to enlighten than to dazzle, and letting them look at the ideas before he explained the charms of science, which it was his purpose to light up, than was necessary gradually and effectually to increase its brightness into sunshine. This was not all. He gained a literary and philosophical reputation by writing on less perilous subjects, with the result that he never invited the slightest suspicion of consideration and respect likely to protect and curb his peculiar and original opinions from the attacks to which they would usually be exposed on their first publication. This was the object of his next work, The Wisdom of the Ancient Philosophers. And some references to his Cabbalistic history of all varieties of opinion for receiving with respect any thing that came from him: the admirers of the wisdom of our ancestors were conciliated by the discussion of a favourite theme, and the original thoughts clothed in beautiful and eloquent style. It is not altogether without reason that his book is called a "hacked-up" discussion, pleased a higher class of readers.

In the year 1611 Bacon was a joint judge of the Knight Marshall's Court. In 1613 he was appointed attorney-general by the order of the queen, who on this occasion the House of Commons showed their regard for him in a particular manner. It was objected that a seat in the lower house was incompatible with the duties of the attorney-general in the upper house of parliament. The objection was thought valid, but overruled in his particular case, in consideration of their regard for his services. His income was now considerable. His professional practice was great: the attorney-generalship was worth £6000 per annum; as Registrar of the Star Chamber, he received £600 per annum. He was a member of parliament to which his father's seat in Dorsetshire, by the death of his brother. An income like this, added to his wife's large fortune, might be supposed sufficient to remove all temptations to increase it by doubtful dishonourable means.

While attorney-general Bacon was engaged professionally in several important cases. He was the king's agent against Peachum, a clergyman who was prosecuted for treason contained in a sermon never preached; and he exerted himself in getting the opinion of the judges before the trial, notwithstanding the unwillingness of Chief Justice Coke, and the illegality and injustice of such procedure. On the trial of the Earl and Countess of Somerset for the murder of Sir Thomas Overbury in the Tower, he distinguished the justice of his inquiries and eloquence with which he conducted the prosecution.

It has been common to describe Bacon as a flatterer of persons in power. That he was a courtier is undeniable. It must be mentioned to his praise, however, that he never permitted himself to be mere men of the court, and that his connections was by no means one of servility and flattery; for he often acted independently, and his letters to him are full of advice, freedom, and sometimes reproach.

When he was made lord keeper of the great seal, and on the 11th of May following he took office. During the King's visit to Scotland, the new lord keeper exercised considerable power; but he did not exercise it as is to please. His manoeuvring to prevent a marriage of his daughter to a royal favourite, and a daughter of Sir Edward Coke, a woman which would have increased the power of his rival, involved him in perplexity, and brought on him the recentment of Villiers. He also offended James I by thinking ill of the projected marriage between the Princes of Wales and the Infantas of Spain. In many instances he acted in his high office in a way beneficial to the state. Several times he refused to put the seals to the orders of the king, and his advancement continued. On the 4th of January, 1618, he reached the summit of his ambition in being appointed lord high chancellor of England, and on the 1st of June, 1618, he was created Baron Verulam, and took his seat among the peers. At the suggestion of the old lord chancellor, he wished Bacon to be his successor, and Bacon accepted the appointment of principal secretary of state, and of the office of lord chancellor, with the consent of his superior fitness for the office, and the ready flexibility with which he would accommodate himself to the will and wishes of his sovereign. On putting the seals into his hands his Majesty gave him three advices, first, 'never to seal anything without mature deliberation'; secondly, 'to give rigorous judgments between parties with dispatch'; and thirdly, 'not to extend the royal prerogative too far.' Bacon entered on his high office with great pomp, and delivered a long and frequent speech on the duties of the king, in presence of many of the nobility. The influence of Buckingham had been exerted in his behalf, and his letter of thanks to that nobleman is truly elegant and beautiful. Anxious to secure the 'golden opinions' of the professional, the new lord chancellor distributed some benefactions to the learned and the established, and since it was not his intention to extend the power of the court of chancery beyond its ordinary limits, he would inform him if ever they were dissatisfied with his proceedings, in order to a mutual and satisfactory adjustment of matters. He introduced the court of chancery to be appointed with a salary of 100l. each, and made some judicious arrangements in regard to hearing counsel and cases. On the 19th of November, 1619, he got the farming of the Alienation Office. Next year he was made 2nd earl of Verulam. In the beginning of 1620 he left England for France with great state. Ben Jonson, the poet, celebrated his virtues, according to the fashion of the day, in some lines, which are part of a masque performed on the occasion. He received the monarchical ring which is still preserved in his house. His Organon. We have seen that it was the chief concern of his early thoughts and of his matured mind. In the midst of a rising career of professional, political, and literary effort, Bacon was moulding and shaping his great work, listening with an anxious ear to the remarks of the learned of his times, and at the height and maturity of his genius, when possessing all the finest honours which talent and learning could give him in his native land, we find this 'servant of posterity' committing to its slow but infallible tribunal a system of science, which is now pronounced—the judgment of reason and experience in this rare instance confirming the boasts of youth—the greatest birth of time. This work was the gradual formation of a creating spirit. It was written in the sedulous industry of an artist who labours for posterity. Like the Anatomy of Butler, and all the greater productions of thought, the Organon of Bacon was the result of painstaking labour spread through many years. Besides the Partus Temporum Marinarum, the Cognitio et Vies, and the Philet Labyrinthus, works which were outlines and model-figures prepared at distant and different stages of this long-studied production, Bacon copied his work twelve times, revising, correcting, and altering it year by year, before it was reduced to that form in which it was committed to the press.

The reception of the work was such as, in the nature of things, must always be given to a production of its class—mingled ridicule and admiration. The criticisms, lauded by the geniuses of the time, are now forgotten with the rest. For a whole century of those days, perpetuated a vile pun upon the town and title of St. Alban's by saying, in some doggerel verses, that it was on the high road to Dance-table, i.e., Dunstable, and therefore appropriate to the author of such things. "The word that is said the wiser the fool cannot have written, and a wise man would not." The pedantic king described it as like the peace of God—it passeth all understanding. Bacon presented a copy to Sir
Edward Coke, on which there is still to be seen, in the handwriting of this eminent lawyer, the following reprosec for the author for going out of his profession, with an allusion to his character as a rogue and rascal, and his corrupt administration of the causes of chancery.

Edw Coke; et duo authores.

Antiqui, remeditat

Instauram per se et tres sua sempiternam.

Instauram legem iustissiorem.

Oct. 1609.

Under a device, on the title-page, of a ship passing through the pillars of Hercules, Coke wrote in a clumsy attempt at verse:

It deserves not to be read in schools.

But to be freighted in the ship of fools.

Some who respected Baron's character and office, remonstrated with the Lord Chancellor. Sir Thomas Bolley wrote to him, that it 'consisted of averment without other form of argument.' And he was represented by more than one man of distinction in those times as 'no great philosopher—a man rather of show than of depth, who wrote philosophy like a lord chancellor.'

He was understood by some. Ben Jonson, after the author's death, described the book in terms of the highest praise. 'Though by the most of superficial men who cannot get beyond the title of nominata, it is not penetrated nor understood, it really enlightens all defects of learning whatsover, and adds to the luster of his person.' It was not worth the while of him by his place or honors. But I have and do reverence him for the greatness that was only proper in himself, and in that he seemed to me to be by his work one of the greatest men and most worthy of admiration that had been.' Though the writer expressed his doubtless he felt, the difficulty of understanding the work, he wrote to Bacon stating what it is likely was his sincere opinion, that he agreed with him in many of his remarks, and assured him that he could not have had more choice of a subject more bedearing his place and his universal and methodical knowledge.' Sir Henry Wotton, on receiving three copies, was highly complimentary: 'Your lordship hath done a great and everlasting benefit to all the children of nature, and to nature itself.'

On the continent the work was more highly honored than at home, being esteemed by many of the most competent judges, as one of the most important acquisitions ever made to philosophy. After this the glory of Bacon set for ever. His name becomes tarnished with infamy. The ordinary apologues for his conduct, the capacity of his servants, and his conviction with the age of men, have not the faintest fixity upon him by the facts of his conduct. He was the victim of improvidence, a vice which gave him a perpetual craving for money to supply the wants which it created. A desire of this kind, kept alive by the constant necessities which it occasioned in the minds of those who had fallen into the vices of procrastination and imprudence, it is equally undoubted that their master was harmed by the incapacity and extravagance in which he permitted them to indulge. During the investigation of the charges, when Bacon one day entered his house, and sat down at the table, he was accosted by a servant with the words, 'Sit down, my masters, your rice has been my fall.'

He was great even in such circumstances, and the native dignity of his mind shone out even through the disgrace in which he had clothed himself. There is something in the proud and conscientious character of those that felt exceedingly for the chancellor; excused him with semi-diminished affection, and caused a short recess of Parliament to give him time for his defence. The spirit of Bacon was crushed within him. His servants were unduly, the agents who sought out the victims of his base, and it is equally undoubted that their master was harmed by the incapacity and extravagance in which he permitted them to indulge. During the investigation of the charges, when Bacon one day entered his house, and sat down at the table, he was accosted by a servant with the words, 'Sit down, my masters, your rice has been my fall.'

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visit to Bacon, and was received by his lordship, who was lying sick in bed, with the curtains drawn. You resemble the angle (said that minister to him); we bear it, but more than once talked of, we believe superior to mankind, and we never have the consolation to see them.' His lordship replied, 'that if the charity of others compared him to an angel, his own infirmities took him for a devil.' He was a man for whose natural history, his History of Henry VII, and some others, were published after his disgrace. Scientific pursuits were his consolation, and at last caused his death. The father of experimental philosophy was the martyr of an experimental life. The latter of sixty-six years. In his last letter he called himself the 'martyr of science,' and compared himself to Pilgr the elderly, whose death was caused by his overzealous observation of Vesuvius. In his will he says, 'My name and memory I leave to foreign nations, to my own countrymen, after some time be passed over.' Lord Bacon left no children.

The accomplishments of Lord Bacon were unrivalled in his day, and his character displayed the phenomenon of great originality combined with a most extensive range of acquired knowledge. He was an orator, a lawyer, and a man of letters. In the philosophy of experiment and of observation he was pre-eminent. The metaphysical and the physical were both congenial to his genius; and although the taint of his immorality has induced me to point the moral of his knowledge and ability in every department, except his method of studying nature, an impartial and searching examination will fill us with admiration as we successively trace his steps in almost every branch of intellectual extension.

The mind of Bacon was poetic: his works abound in imagery. It is true that small wits have ridiculed all his poetical pretensions, because in his version of the Psalms he says that 'man's life hangs on brittle pins,' and speaks of the moon as a 'silly old moon.'

Still we find in Lord Bacon's verses many vigorous lines, and some passages of great beauty.

The merits of Bacon as an orator were, in the opinion of Ben Jonson, the most commendable of his age, confirmed as it is by the testimony of Francis Osbomoro, and the effects of his eloquence, undoubtedly not equalled in his own time. Sir Walter Raleigh reckoned him the only man of his day who was equally eminent as a writer and a speaker. The following passage, from Jonson, is a remarkable one: 'The man and his raciness give weight to the opinion which it expresses: 'There happened in my time one noble speaker who was full of gravity in his speaking. His language, when he could express it so, was not of the lowest order: never spoke more neatly, more prudently, more weightily, or suffered less emptiness, less idleness in what he uttered. No member of his speech but consisted of his own graces; his hearers could not cough nor look aside from him without loss. He commanded when he spoke; and his judges were pleased and angry at his devotion. No man had their affections more in his power. The fear of every man that heard him was lest he should make an end. Cicero is said to be the only wit that the people of Rome had equal to himself in this orator.'

Sir Thomas More, the elder Wist, Henry Earl of Surrey, Chalonor, Smith, Clis, Bishop Gardiner, were for their words admirable, but more because of their manner of words. Sir Nicholas Bacon, singular and almost alone in the beginning of Queen Elizabeth's times. Sir Philip Sydney and Mr. Hooker (in different matter) grave, great masters of wit and language, and in whom we are more likely to find judgment, and to speak. Sir the Ear of Essex noble and high, and Sir Walter Raleigh not to be commended for judgment or style, Sir Henry Savill grave and truly lettered, Sir Edwin Sands excellent in both; Lord Egerton, the chancellor, a grave and great orator, had much to commend. But his learned and able (though unfortunate successor) is he who hath filled up all members; and performed that in our own tongue which may be compared or preferred either to insolent Greece or

haughty Rome; in short, within his view and about his time were all the wits born that could honour a language with their studies. Now things daily fall; we do not downwards, eloquence grows backwards, so that he may be named and stand as the mark and depth of our language.'

The observations and experiments of Bacon in physical science, viewed beside the results obtained by his immediate successors, as well as by the marriage of great Galileo, it is only when viewed with reference to the general state of knowledge in his own times, that the sciences recorded by him can be fairly estimated. His merits indeed would have been those of any experimental philosopher, were his discoveries at all equal to the method of studying science which he taught.

In the first part of his great work on the Instauratio of the Sciences, Bacon proposed to make a survey of knowledge as it then existed, which was a necessary preliminary to the reform which he contemplated. In this work he has made a distribution of all knowledge under the three heads of memory, imagination, and reasoning. This division has been occasionally adopted by subsequent writers, though it does not appear to have the recommendation either of exactness or utility. The Novum Organum, which is divided into two parts, is the second part of the same work. In the first book of the Organum, Bacon attempted to show the source of mind which caused the existence of a false and fruitless philosophy. He saw causes of error in our common nature — in the peculiarities which mark the individual — in the states and systems of the schools and colleges, and in the life and party habits which the processes of association interweave with all the elements of the character, and harden into the habits and creeds which exert a despotism away over successive generations. The influence of these mental states upon the interpreters of nature is called 'the imperfection of the states, and the states themselves, in their fanatical nomenclature, are idols of different kinds: those which proceed from principles common to the species are idols of the tribe; those produced by the peculiar character of the individual are idols of the person; the commerce of the states, and the life and habits of man, by the use of words causes the worship of the idols of the forum; and the idols of the theatre are the creatures of the imaginary and visionary systems of philosophy which have appeared. Some causes of error are those of the worship of the laws, and others the idolatries of a single mind are apt to warp its views in other regions of thought. Words influence thoughts, and the subtilty of the processes of the mind in using them is a source of error affecting the operations of the intellect. The states of the community and the tone of the life of the states of mind of a whole nation are idols in the society of systems is obvious; it is illustrated fully by the history of philosophy. The undue reverence for antiquity, the authority of names, the pursuit of unattainable objects, the examination only of the rare, the extraordinary, and the great, together with superstition, which Bacon does not forget to enumerate, had long opposed the progress of all true knowledge.

In the first part of the Organum, the true object of science is clearly pointed out by Bacon: 'It is impossible,' he says, 'to advance with any profit in the race, when the point to be attained is not distinctly determined. In science, the true end is to enrich human life with new discoveries and wealth. (Organum, lib. i. aphorism. 81.) In the second book of the Organum, Bacon proposes to explain the nature which he proposed for the advancement of science.

The first thing is to prepare a history of the phenomena to be explained, in all their modifications and varieties, written with the utmost caution and care; in the correctness of the words employed, and the evidence of the facts which we narrate. Having brought together the facts, we must begin by considering what things they exclude from the number of possible causes, or forms as they are called in the language of Bacon, by which the supposed form is wanting ought to be collected. It may perhaps (says Bacon) be competent to angels or superior intelligences to determine the form or essence directly by affirmations from the first consideration of the subject. But it is certainly beyond the power of
man, to whom it is only given at first to proceed by
natives, and in the last place, to end in an affirmation
after the exclusion of everything else.'

The observations and experiments of the natural phi-
osopher—the facts which he is enabled to verify by an
Inductive basis of those evidence, and the weight due to
whose testimonies, vary in the same way as the evidences
which form the grounds of moral investigations. The facts
or instances, as Bacon calls them, vary in clearness,
and the power of the mind to discern the connection
in the number of seven different kinds of instances, and estimates the weight
due to each from the peculiar circumstances of which con-
tinue their worth or worthlessness as means of discovery and
and aids to investigation; but it is impossible, in this outline,
the testimony of six instances, and a general impression.
Of these twenty-seven instances fifteen are enumerated to
assist the understanding in estimating the value,
and forming a right judgment, of different facts; five correct the
failures of the senses and instruct them in their observations;
and the remaining seven direct the hands in raising the
superstructure of art on the foundation of science.'

This last division includes the use of instruments in aiding
the senses, in subjecting objects to alteration for the purpose
of observing the effects of those alteration and thereby
encourage his efforts. In the words of Professor Play-
fair, 'the power and compass of the mind which could form
such a plan beforehand, and trace not merely the outline
but many of the most minute ramifications of sciences
with the aid of a microscope, must be an object of admiration to
all succeeding ages.'

The great merit of Bacon undoubtedly consists in the
systematic method which he laid down for prosecuting phi-
losophical investigation; and his services in this department
cannot easily be overstated. At the present time, when so many
who busy themselves with physical pursuits would do well to recur to the severe and rigorous principles of the
Organum.

The praise that is generally given to Lord Bacon is, we
are now apt to consider some to be at least extravagant and
indiscriminating. However this may be, there is no
occasion to exalt him, as is sometimes done, at the expense
of all who have preceded him. It is not unusual to repres-
ent Bacon as the founder of the natural sciences from that line of
the Aristotelian philosophy; and this assertion is, in fact, in
such terms as to imply, or even distinctly to express, that observation, experiment, and what is termed the inductive
philosophy, or the Baconian method, were not practised by
Aristotle and his contemporaries; but that the latter century
and succeeding centuries of inquisitive investigators were the
originators of these sciences.

The science of geology has now taught us that the surface of the earth is
undergoing continual change: the facts collected by Ara-
tosthenes as to the action of water led him to infer that on the
surface of the earth all is in a state of change—that lakes are
filling up, that rivers have not always flowed where rivers are now flowing, and that the land and sea in the
long course of time change their places. (Meteorolog. lib. 1.)

The greater part of the works were written in English, but some were written in Latin, and others were
translated into that language. We shall mention only the
principal works. His 
father, and the Rev. Mr. Bate, a
Churchman, was born on the 28th of November, 1746, in
southwark, in Surrey, where he was educated to the
trade of a cloth-worker. He showed at a very early
age a taste for drawing, and was apprenticed when four-
teen to Mr. Crisp of Bow Church-yard, a porcelain
manufacturer, where he learned the art of painting on china,
and also of making those little ornamental figures in that
manufactory, which are usually called 'biscuit,' figurines.
It is an extraordinary proof of talent that in the second year
of his apprenticeship he was intrusted with the formation
of all the models for the manufactury; and it is a still
higher praise that at this early age he contributed essen-
tially to the designs for a number of pieces that were
soon discarded a style far superior to that to which he bad
been accustomed; the next step was to imitate what he
admired, and from this time his leisure was solely de-
voted to his new pursuit. In 1758, being then eighteen,
he ventured to send a small figure of Peace composed
for the Encouragement of Arts; it was favourably received,
and he was rewarded with a premium of ten guineas. The
first premiums of this institution were adjudged to him
on nine different occasions.

The discovery of the art of making statues in artificial
soils (cement) has been ascribed to Bacon, but although there
is reason to believe that the invention was of prior date, it
is unquestionably entitled to the praise of having facilitated the
invention of mud to a great extent. In 1764 he was admitted
during a considerable time in Gaine's manufactury at Lamb-
eth, where not only figures, but every species of architec-
tural and monumental ornaments, were made in stone,
and by his exertions retrieved the credit of the declining
industry and the establishment of a new establishment. In
the spring of 1768, he entered himself as a student, and the next
year gained the first gold medal for sculpture which was
awarded by that society. In 1779 he was elected an
associate of the same corporation. He exhibited about the
city for some years, but after some years had elapsed, his
repartment, and procured him the personal notice of the
Archbishop of York, who commissioned him to execute a
figure of St. George. By this prelate Bacon was introduced
to the king, who sat to him, and the artist had the great
honour of giving to the royal family what is esteemed as
the most beautiful work of art.*

About this time Bacon married, and removed from the
small and inconvenient apartments which he had previously
occupied to a spacious house in Newman Street, the pre-
misses, it is said, having been fitted up with studies, work-
houses, and every convenience to encourage his family life and good
proprietor of his manners. Bacon, sensible of the advantage
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*Of the above, see the section on "The History of the Arts and the Nornum
Organum.

The work was written partly in English and partly in Latin,
and he caused the first part written in English to be trans-
lated into Latin for him by a gentleman of the name of
H. The text was then revised and corrected, and turned into English. His work in this
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Learning was partly written in English and partly in Latin,
orities were deceived; but what do such deceptions prove? Do they diminish the value of antient art, or are they any proof of skill in the modern imitator? Certainly not. To give his work an appearance of the general style of the age, the trouble was necessary; that of the separate objects to be imitated, and that slavish capability furnishes no proof of a profound acquaintance with the principles of antient art. Bacon stood on higher ground, when he candidly disclaimed any pretensions to that knowledge which he was accused of wanting. No less important than the picture itself was he sought for excellence where the antients had found it.

His want of the refined perception of beauty was one of the causes of his extraordinary professional success. Bacon's power lay in the plain realities of life, and whatever illusions he may have been able to provide to the eyes of some of his clients, he was neither the artist nor the graphic artist, whose 'Thames' in the court-yard of that edifice is also by him. When it was proposed by Government to erect a monument to the Earl of Chatham in Westminster Abbey, the various artists were invited by the committee of taste to send in designs. The design, mentioned, termed moderate, with the proviso that the artist to be employed, was, at that time conceded to the Royal Academy; and however injudicious this practice might have been, Bacon, elated at some deference to the the rules of a society of which he himself was a member. He put forward the project of his private influence, with the king, and having procured an audience for the purpose of showing his model, obtained his Majesty's commands to make the monument. His academical brethren were deeply indignant at this manoeuvre, but they had too much policy, to attempt any opposition. The first period of offence was in store for them. Bacon, in the true spirit of a trading speculator, actually made a proffer to Government to make all the national monuments at a certain per-centegg below the parliamentary price. His proposal was rejected, but neither with the pomptitude nor the contempt it was due to it. It is but fair to infer, as Bacon had many and zealous friends, that the defects of his character were tempered by a large admixture of better qualities. His character, in the personal as well as in the intellectual, was, as has been already observed, although it is admitted that he was somewhat penurious in the management of his household, it is also said that he sometimes gave large sums to public charities. No particular instances, however, have been mentioned. He was eminently honest, and more over was the friend of the glibocrat. In his workmen armed and drilled for military service, and he published some tracts with the view of preventing the spread of revolutionary principles.

So numerous are his works, that to enumerate them all, or to specify the peculiar thing in which they were executed, would be difficult. Among the principal may be reckoned, the monument to Lord Halifax in Westminster Abbey, the statue of Blackstone at All Souls' College, Oxford; that of Henry VI. for the Anti-Chapel at Ric in; and for the ornamental groups in the grounds of his own residence, which is supplied with the exception of a semicircular and rather elevated plateau, arching to the south, between Szataniites above Zombor and Maria-Theresiopol, is an uninterrupted plain, and contains 3586 square miles. The plateau just described is a continuation of this, lying immediately north of what are called the 'lesser and greater Italian engravings,' which extend in a serpentine line from Apatin near the Danube to Boldvar on the Theiss, but are supposed by some writers to be the 'Rim' raised by the ancient Britons. Behind it the river Mos-Kazan Hills runs the great Bacsar, or Emperor Francis' Canal, which commences above Monostorszegh on the Da

BAC, or BATZ-BODOUGH, a considerable circle in the south of Hungary, between the Danube and the Theiss; the banks of the former river constituting its western and southern boundaries, and those of the latter its eastern. On the eastern bank of the Theiss is a large island, and on the surface, with the exception of a semicircular and rather elevated plateau, arching to the south, between Szataniites above Zombor and Maria-Theresiopol, is an uninterrupted plain, and contains 2586 square miles. The plateau just described is a continuation of this, lying immediately north of what are called the 'lesser and greater Italian engravings,' which extend in a serpentine line from Apatin near the Danube to Boldvar on the Theiss, but are supposed by some writers to be the 'Rim' raised by the ancient Britons. Behind it the river Mos-Kazan Hills runs the great Bacsar, or Emperor Francis' Canal, which commences above Monostorszegh on the Danube, passes Zombor, Kula, Veres, St. Tomas, and Turis, and joins the Danube at Boldvar; it was constructed, at an expense of 300,000 crowns, by the Empress Maria Theresia, in 1789, and is nearly seventy miles in length, and has a breadth of sixty-two feet, and a depth varying from four to six feet. About 700 laden vessels navigate it annually, many of which are from 250 to 300 tons burthen, besides upwards of 300 vessels in ballast. The circle contains no stream of note besides the Mosonga, which flows with a sluggish current, forming numberless swirls in its course, into the Danube near Bukin. There are several large sheet of water in the vicinity of the town, the largest of which is near Maria-Theresiopol, and the adjoining lake Ludato. Its soil is in parts of such great natural fertility as not to require manuring; in others it is so arid and sandy as to be scarcely available for any useful purpose: the labours of agriculture is more attended to in the neighbourhood of Maria-Theresiopol, Madaros, Baja, and Monostor, as well as the 'Pradina' (domain of the Hungarian seces, which have their own civil jurisdiction under the diocesan's palatine, and are exempt from public taxes), in the northern part of the circle. The productive portion of its surface is estimated at 1,250,000 jochs (about 1,785,700 acres), of which nearly one-half is arable land. In consequence of the swamps, its climate is in general insalubrious. Though husbandry is carried on here, the agricultural produce is chiefly for the hungary's own consumption. But it produces its own wheat, less than 450,000 quarters, and in favourable seasons, 650,000 quarters of grain; its wheat in particular is in great request, from the excellence of its quality, and is exported in large quantities. The vineyards occupy 380 acres, and produce to the value of 25,000 florins. The trees in the neighbourhood of Maria-Theresiopol, Baja, Zambor, and the Francis' Canal. Fruit is largely produced; hemp is cultivated to a great extent; and a good quality of tobacco is raised on the 'Sakikas,' or isolated farms, which are an institution peculiar to Hungary. The hogs and cattle in the neighbourhood of Apatin, woods, particularly of oak, abound along the banks of the Danube, but their whole extent does not exceed 172,170 acres; hence the lower classes are compelled to use straw, dried rushes, and cattle dung for fuel. The 3,810 acres of pasture which lie between the Danube and the woods contains are used for the rearing of cattle and horses, and sheep in considerable numbers and of excellent breed.
the traffic in these animals, as well as in wool and hides, is carried on to a large amount. The swine in this quarter are frequently fed upon the fish which abound in the river. Miners are engaged in the mines of Apollonia and the fishery on the Durance and Thecse are a source of no inconsiderable wealth to the inhabitants. Water-fowl are likewise abundant. Bace contains neither market nor store. Its 370,000 inhabitants, of whom 229,000 are Roman Catholics and 5,000 Jews, are dispersed over three royal free towns. Maria-Theo-
rise, Volcano (the capital), and Neussai, fifteen market-
squares, ninety-six villages, and ninety-six presbyteries, being inhabited in respect to education; and theft, particularly in the rural districts, is very common: steps are, however, taking to remedy the evil by the institution of national schools. (Statistica et Geographia ecclesiastica, in the Levita's Description of Bace; Gräfer's Dictionary, &c.)

BAC-BATSC, on the Mezopotamia rivulet, north-west of Neussai, in 45° 24' N. lat. and 15° 14' E. long., is a slight fortified town, situated in a fertile plain, and the principal of the Greek states, inhabited by the bishop, archbishop of Calatas. It is the chief place of the minor circle of the same name, possesses a Greek church and a Franciscan monastery, has a population of 7500 souls, and carries on considerable trade.

BACTRIA, or BACTRIANA (now BOKHARA). The province of Aria was bounded partly on the north, and to a greater extent on the east, by Bactria. The river Oxus was the boundary between Bactria and Sogdiana, which lay to the east of Bactria, and Sogdiana possessed the Oxus as the boundary of the province. (Strabo, p. 517.) The northern boundary of Bactria was naturally indefinite, and the western was Margiana. These limits, which mark the extent of Bactria as a province or satrapy, do not of course correspond with the greater or lesser extent of the Bactrian kingdom. The province of Bactria was a territory of great extent, partly barren and waste, but in many parts of great fertility, watered by the Oxus and its tributary streams, and peopled by a brave and hardy race, who were reckoned among the best soldiers of the world, after Bactria became a Persian province. The chief city was Bactra, called also Zaraspa, situated on the Bactra, one of the tributary rivers of the Oxus. Of Bactria little is known prior to its subjugation by the Macedonians under Alexander the Great. The account of an expedition against it by Oxyandrux the Egyptian, merits no confidence; and those of Ninus and Semiramis perhaps not much more. According to Herodotus, Cyrus, having defeated Croesus, intended to invade Bactria; and (according to Ctes.

In the early part of the reign of Theodotus I, the Parthe
nians under Arses got possession of Hyrcania; at the close of his reign he prepared to make war on the Parthians, but having no army of the necessary size, can only be conjectured. Theodotus II, the son of Theodotus I, according to Justin, made peace with Arses II, and entered into a league with him against Sogdians, Cilicians, the son of Antioco.

Euthydemos made a vigorous defence, but was defeated, and fled to Zaraques. The war being, however, protracted to the third year, and beyond the expectation of Antioco, he sent Teles as ambassador to Euthydemos, to expostulate with him on his conduct. Euthydemos justified his usurpation by alleging that he had not rebelled against Antioco, but had de-

of Mannder, the fourth king of Bactria according to Bate,

son Demetrius is to be preferred to the tribute, by which it was agreed that Euthydemos should deliver up all his elephants, but should retain the title of king. This treaty was confirmed by oath, and Antioco promised to give Demetrius one of his daughters in marriage. Antioco then went into India with his army, and finally returned by Car

to his own dominions. We shall presently notice the De
temamus granted; it does not appear to have succeeded his

of Meander, that the Boeotians and the Euboeans of Bace by force. Of Apollonas Bessus and Heliotheas Dikeos nothing is known. Eutetramus I, according to Bate, succeeded Meander; his origin is unknown. It is supposed that he was the grandson of Buththos; but, according to Bate, without foundation. He appears to have been a worthy monarch, to have waged a successful war in India against King De
tenius, and to have founded a city named after him Bas-
tastedica - on his coin he styles himself the Great King. Justin relates that he was assassinated on his return from his Indian expedition by his son, also named Eucrastes, who had been associated with his father in the government.

Eucrastes II. reigned twelve years, according to Bayer, when the kingdom was overrun by the Scythians, or Saces; and the government of the Greek kings of Bactria terminated by the country becoming a part of the Parthinian empire. (Bayer, p. 235.) It was about the year 147 B.C. as stated in the second year of the 146 Olympiad, a. c. 207. Demetrius was a victorious prince. In conjunction with Menander, who was king of Bactria after Euthydemus, he conquered, as far as the Hyphasis or Hyphasis, the extensive provinces which formed the possessions of Parthia; from these he published coins as far as the Istakia (the Himalayas mountains), and having become master of this territory, once the dominions of Sandroctocus, he gained possession of Patalene - an island formed by the mouths of the Indus. It was also all that part of India which lies on both sides of the Ganges, the capital of the Seres. He was a very probable that he founded the two towns of Demetrias and Euthdemia, one in Arabochas, the other near the Indus. As we have no authority to show that he reigned in Bactria, we must conclude that from these conquests he founded an independent empire. This he governed more than sixty years, and was at length, after a long struggle, in which victory often wavered, conquered by Eucrastes I., king of Bactria, who took possession of his extensive dominions.

According to Bayer, Demetrius would have been eighty-seven years of age when he was conquered by Eucrastes. (Bayer, p. 93.)

Appears, from two medals of Eucrastes I., which Meyendorff published in 1882, one (belonging to Sir Gore Ouseley) representing him in early youth, the other (in the cabinet of medals of the Imperial Academy of Sciences at St. Petersburg) at a very advanced age - that he also, must have reigned a long time in Bactria. Another coin of Eucrastes, similar to the one engraved here, is preserved in the British Museum. Mr. Payne Knight calls it Eucrastes II.: the head is younger looking than the coin engraved below; it possesses, however, the same character of countenance. The monogram differs, being Δ.

The figure of Hercules on the reverse of this coin of Demetrius appears to have been designed to commemorate his conquests in India. (From Meyendorff's Travels.)

The coin of Demetrius should be classed amongst Indo-Greek rather than Greek-Bactrian coins; still, as so intimately connected with the Greek-Bactrian dynasty and the history of Bactria, it may with propriety be admitted in this place. The Greek-Bactrian coins found at different times, are of gold, silver, and copper. The specimens in the British Museum are very perfect. The silver coin of Demetrius, as far as we can judge from the drawing in Meyendorff, is finer than all the known Greek-Bactrian coins. A gold coin of Eucrastes described here. (See Lassus's Description des Médailles Antiques.)

Colonel Tod's medal of Apollodotus found by Colonel Tod at Surapura on the Jumna, between Agra and Etawah. Colonel Tod found it at the same place a square coin, which he also sent to Messrs. W. H. C. Schlegel, 122). Mr. Prinsep is of opinion, that the small copper coins found at Manypatra, having a horseman on the reverse, may be considered as belonging to Eucrastes I. A square copper coin found at Shorkoth may, from the inscription BARIACHA NIKAOPOI EUCRATES, be ascribed to Eucrastes. (See p. 322, Voyage d'Ombre à Boukhará fait en 1828. Paris, 1836.) It is however, in the Zend character. (See Mr. Prinsep and Professor Wilson's Notes on Lieutenant Burnes's Coins. An Inscription of the Royal Asiatic Society.)

Besides the Greek-Bactrian coins, Lieutenant Burnes found Indo-Greek, Indo-Skythian, and Hindu coins, with some engraved gems. (See p. 322, Voyage d'Ombre à Boukhará fait en 1828. Paris, 1836.) It is however, in the Zend character. (See Mr. Prinsep and Professor Wilson's Notes on Lieutenant Burnes's Coins. An Inscription of the Royal Asiatic Society.)

Colonel Tod gives also coins of the character of the Kaishka coins mentioned above: his coins are well worth the attention of the curious on these subjects.

To the following list of Bactrian kings by Schlegel, we have added a notice of such coins as we are acquainted with:

b. 235. Theodotus I.
243. Theodotus II.
246. Euthydemus, of Magnesia, Coin of, in the British Museum, and one of silver given in Lieutenant Burnes's Travels.
195. Apollodotus Soter. Alluded to by Plutarch, Tro-gua, and Arrian.
143. Menander, son of Nikator.

Coins of these kings found by Colonel Tod at Surapura on the Jumna, and one of Menander, by Lieutenant Burnes, at Khoju Oban.
BAC

Helobites Diiacisa.—On the authority of Viconti and Maxeoci from a single medal. A coin of Democles or Euthydemus: doubtful if he reigned in Bactria.

146. Euphrates I.—A fine coin of this monarch is preserved in the British Museum. There is also in the British Museum a very perfect small coin of Euphrates, weighing 12 grains; on the reverse are two caps and two palm-branches.

147. Destruction of the empire by the Scythians or Sac.

Euthydemus. (Weight 185 grains.)

Democles. (Weight 201 grains.)

BACTRIS, a genus of palms, consisting of a considerable number of species found about rivers, and in marshy places in America, within the tropics, especially near the line. Their trunk is usually of moderate height, or even dwarfish, never exceeding twenty feet, sometimes having the stout tree-like aspect of palms in general, but often being more similar to reeds. They often grow in dense masses, forming impregnable thickets, on account of the numerous, long, hard, black spines with which the stems are protected. Their wood is generally hard and black, towards the outside, but pale yellow internally, with black fibres. The leaves usually grow all over the surface of the stem, instead of being confined to the summit only; they have extremely spiny stalks, and are either pinnate after the manner of the date palm, or merely consist of two broad, sharp, diverging, pointed lobes. The fruit is small, soft,

with a subacid rather fibrous pulp, enclosed in a bluish-black skin, and affords a grateful fruit to small birds.

Baculis acuminatus, a species which grows twelve or fifteen feet high in the primeval woods about Baha, forming patches thirty feet in circumference, and having elegant pinnate leaves six or eight feet long, with stout spines on their stalks, yields an extremely tough thread, from which the natives, who call it Yucum, manufacture strong nets. Its drupes are of a kind of vermilion red, bristling with short black prickles.

Martius mentions seventeen other species.

BACULITES (zoology), a genus of Lamarck's palatal laminae or many-chambered cephalopods, belonging to the family of Ammonites, or, as they were formerly called, Cornua Ammonis, born of Ammon, from the resemblance of the shell of the typal genus Ammonites to the ram's horn, said to be characteristic of Jupiter Ammon. Ammonites, which was first discovered by Favjas de St. Fons in the limestone of Maestricht, is only known in a fossil state, and is comparatively abundant in the limestone of Volognae, in Normandy. The shell is straight, more or less compressed, conical, or rather tapering to a point, and very much elongated. The chambers are numerous and passed by a marginal siphon, and the last chamber is several inches in

[Diagram of Baculites verticillatus]

1, 2. Portions of bacularis verticillatus. 3, a detached piece of the same.
BADAKSHAN is the name of one of the numerous Khans or principalities through which the country of Turkistan is divided. It is situated between 36° 34' and 34° 34' lat. It is bounded on the south and east by Kafiristan, which separates it from the country of Afghanis and Kafiristan; on the west it borders on the territory of the independent Uzbeks of Kasim and Hissar; and on the north on the northern part of the Kur River, Shugnán, Derwáz, and Wakhilla. The country is exceedingly mountainous, and filled with highlands connected in the east with the Belur or Belut-Tagh, and in the south with the Hindu Kush. It is intersected by two principal valleys formed by two rivers which unite to make the Amu or Oxus. The first, which is the larger of the two, is the Panj, called also the Hammâ (whence probably the name of Amu). It rises in the high grounds east of the Belut-Tagh range, issuing from under the snow of the lofty mountains of Pâishkekar, and working its way by the lower, ground of Shugnán and Derwáz. The second is called the Kokha or Badakhshan river; it rises towards the south of the first, in that part of the Belut-Tagh which separates Badakhshan from Kafiristan, and is solidly fortified at least as Feizâbâd, and there are several wooden bridges across it. The two rivers are separated by a range of lofty hills: they meet near a place called Jalur. The valley of the former of these mountains, and are fertilized by streams which pour their waters into the latter rivers.

The climate of Badakhshan is healthy, and travellers praise the beauty of its scenery. The valleys and small plains are pleasant and fertile. These last are cultivated with corn, poppies, and grapes. Badakhshan produces iron, salt, sulphur, and lapis lazuli. The mode in which the last is detached from the cliff is the same that is practised for getting large masses of stone from the quarry in some parts of Hindustan: a fire is lit over the block of lapis lazuli, and then the stone becomes sufficiently heated, cold water is dashed upon it, and the rock is thus fractured. (Burnes's Travels into Bokhara, vol. ii. p. 205.)

The celebrated ruby mines of Badakhshan, often alluded to by travellers, are sunk at a place called Gharan, near Shugnán, on the verge of the Oxus. They are at present worked by the command of the chief of Kunduz, who has conquered this part of the country. The rubies are said to be found like round pieces of pebble or flint, and imbedded in limestone.

The inhabitants of Badakhshan are Turks; their language is Persian; and they are Mohammedans of the Shiah sect. Neither the Uzbeks nor any of the Turkis families have any hold over them, but they have many camps of wandering Uzbeks. The capital is Feizâbâd, a considerable town situated on the Kokha river, but now almost without inhabitants in consequence of an invasion of the chief of Kunduz, which happened about the year 1822. It also suffered from the earthquake of January 1823, which was likewise felt at Multan and Lahore, but which appears to have been most violent in the valley of the Oxus. There is, according to Fraser, another town, also of considerable importance, and of the same name as the province: some authors seem to identify this town of Badakhshan with Feizâbâd.

The chief of Badakhshan, at the time of Mr. Elphinstone's embassy to Kabul, was Sultan Mohammed, who was then supposed to be the only independent ruler of the country, was estimated at six lakhs of rupees (about 60,000l.), and has forces from 7000 to 10,000 men, mostly matchlock men, a service in which the natives of Badakhshan greatly excel. The name of the present chief is Mira Abd Allah. (See Leyden and Erakine's Memoirs of Baber, Intro., p. xxxi.; Elphinstone's A Voyage to the Kingdom of Cambay, vol. ii, p. 441, 442, 5th edit.; Burnes's Travel into Badakhshan, vide, vol. ii, p. 392, &c., and map; Fraser's Travels in Afghanistan, p. 102.)

BADAGRY is a town on that part of the coast of Guinea which is commonly called the Slave Coast: about 6° 30' lat. and 3° 30' E. long. It is six or seven miles from the shore, on the banks of what is called the Western River. The town lies on a low river, near from the river Lagos, whose mouth is about 4° 30' E.

BADAGRY is a town on that part of the coast of Guinea which is commonly called the Slave Coast: about 6° 30' lat. and 3° 30' E. long. It is six or seven miles from the shore, on the banks of what is called the Western River. The town lies on a low river, near from the river Lagos, whose mouth is about 4° 30' E. long., towards the west to the river Volta, which approaches the meridian of Greenwich: it there joins the Volta near its mouth. (See Lagos.) A natural canal unites this western river with the sea at Badagry. The town may contain upwards of 10,000 inhabitants, who formerly dealt in slaves for a great extent, for which reason the Portuguese established at this place five factories, and resided here annually with many vessels; indeed it is probable that this trade has not yet ceased. The houses, except of the king, are constructed of bamboo cane, and are only of one storey. The mansion of the king is surrounded with a stone wall, and has a well of water in the middle, but is not known. Captain Clapperton and Richard Lander set out from Badagry on their expeditions into the interior of Africa. (Bowdich, Lander.)

BADAOZ (Par Augstura), a city in Spain, the capital of Estremadura. It was called by the Moors Beled-Aix, or the land of health, from which its present name is derived. It is situated in a vast plain, at the confluence of the river Guadanna with the Rivas, and is 270 feet above the sea. Its situation, as well as that of the city of Bada, is a fortified place, opposite to Elvas in Portugal, from which it is distant about twelve miles. The town contains 12,683 inhabitants, a cathedral, the chancel of which consists of a bishop, twelve bishops, and nine canons; five priests of monks; and eight of nuns. The whole bishopric contains fifty-three parishes. There are no fountains in the town, but there are many in the suburbs, and a great number of wells. The streets are regular and clean, but very narrow. Badajoz has given birth to many eminent characters, both in science and arts, among whom we may mention the celebrated painter Morales, some of whose works are preserved in the cathedral. The soil of the surrounding country is very fertile, and produces abundantly grain, fruit, wine, and oil; and the industry of the inhabitants is confined to the tanning of leather, the manufacturing of soap, and the weaving of coarse woollen stuffs in the hospicio, or almshouse.

Bakewell castle, or barracks, which is built on a calcareous rock, 300 feet above the level of the Guadrians, and on the south side of it, commands both the town and the confluence of the two rivers. The city spreads like a fan between the two rivers, and is protected by eight good bastions, from twenty-three to thirty feet in height, with a counterscarp and glacis. On the north-west side of the place is a bridge upon the Guadanna, 1874 feet in length, and 22 wide. It has twenty-eight arches, and is protected by a good bridge-head (tête-du pont). There are three gates in the walls of the town. The outworks consist of the ravin of San Roque, on the eastern side, which covers a dam and sluice upon the Rivas; Fort Picorna, on the south-east; Fort Pardalona, a roundwork occupying the northern side of the town, from which it is separated by 600 feet; and on the opposite side of the Guadrians, Fort San Christoval, which is 600 feet square, stands upon a rock overlooking the interior of the town, and is connected with the bridge-head. Badajoz was possessed by the Moors until 1168, when Alonso Enríquez, the first king of Portugal, wrested it from them. Fernando II., king of Leon, who fled for protection to his ally the Moorish king of Badajoz, rescued the place from the hands of the Portuguese, and made Alphonse his heir by the act of possession. In 1181 Fernando himself took it from the Moors, but he lost it through the perfidy of the Moorish alcaide, in whose hands it lay. In 1182 it was again taken by the Christians, and in 1309 by Ferdinand the Saint. In 1666 it was besieged by the Portuguese, who retired after a few days.

As soon as the news of the raising of the people at Madrid, in May, 1688, against the French, reached Badajoz, the town was defended against a siege that was formed for the defence of the province, and a messenger sent to General Carrera, who commanded a Spanish division in Portugal, to invite him to come to the defence of the country. The soldiers then at Luso were passing the former, and were ordered to form part of the garrison of Badajoz. General Kellermann sent three successive messages to the junta of Badajoz, exhorting them to submit to
Napoleon, and endeavoured to exercise the advowson of the
Portuguese against their neighbours; but the Portuguese,
making common cause with the Spaniards, and chiefly a
Frenchman, Robert, commanded the French troops.

The Austrian king, then at Lisbon, ordered a

The French general Drouet, in front and flank, and forcing
him to retreat from Villafranca to Hornachos. The
remaining part of the force invested the place. At the
beginning of the siege the weather was particularly unfavourable,
and on the 10th a rainstorm forced the French to

The 23rd fire was opened on Fort Picurina, and
Lord Wellington determined that it should be taken by
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contest, in which all the chief British officers were either
killed or wounded. Of the enemy, out of 2500 men 86 were
made prisoners, and the remainder were either killed or
drowned in attempting to cross the Rivillas.

The possession of the Picurina enabled the besiegers to
establish the second parallel with little loss, and on the 26th
two breaching batteries were opened on the right of the
body of the place. At this time news arrived that Soult
was advancing from the south to relieve the place, and
had obliged General Graham to retreat towards Almeidres,
while Marmont, crossing the Guadiana, had been
marched, laying waste the country, as far as Covilhao,
in the Serra de Estrela. The allied cavalry, which had
been left there to observe his movements, had crossed the
Tagus, and were retreating. It was then deemed necessary
to push on the siege with greater vigour. On the 4th of
April two large breaches having become practicable in the
bastions Trinidad and Santa Maria, orders were given for a
general assault.

At twelve o'clock on the fourth and light divisions
began the assault. As soon as they reached the glacis they
were discovered by the enemy, who instantly opened a
deadly fire. In spite of this fire, and of a heavy rain
from the town, the troops continued their march,
and entered the covered way, and fixed their
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(See Colonel Napier's History of the Peninsula War, vol. iv. book xvi.; Colonel Jones's History of the Sieges as in the Peninsula.)

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Boundaries.—It forms a compact territory extending, with very irregular breadth, along the right bank of the Rhine in its upper course, from south to north, and is situated between 47° and 50° N. lat., and 7° and 10° E. long. Its superfluities is about one-twentieth part less than that of Yorkshire, but it exceeds Yorkshire about two per cent, in number of inhabitants: it is more than equal to Saxony in extent, but much below that kingdom in point of
population. The length of the Baden dominions in a straight line from north to south, namely, from the village of Lautenbach, south-east of Heppenheim, in the grand-duchy of Hesse, to the Swiss frontier immediately south of Cremnisch, is about 150 miles; but if estimated by the
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AD. 1812. Lord
Wellington threw his army with the greatest secrecy over the
Tagus, with a view of investing Badajoz before Soult
and Marmont should be able to relieve it. The better to
deceive his enemies, he ordered the artillery for the siege
to be embarked at Lisbon on a feigned destination: when
at sea it was re-shipped into small craft, and conveyed
up the Tagus to Sado, where there were 2000 man
tages to Badajoz. On the 11th the British army reached
Elvas, on the 16th they crossed the Guadiana over a flying
bridge, and the place was suddenly invested by the fifth
and light divisions commanded by General Bessières
under General Picton; the first, sixth, and seventh divisions,
under General Graham, advanced to Los Santos, Zafra, and Lle-
renas. Sir Rowland Hill, with the second division, and

General Hamilton, with the Portuguese corps and one
brigade of the French Almendares; thus threatening the
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the interposition of parts of the canton of Schaffhausen and the city of Würtemberg fortress of Höhenwetzel.

Area and Population.—The area of Baden has been variously estimated; for there is scarcely a state in Germany of which we possess fewer statistics, with the exception of the Rhine. It is stated to be between 6,048 and 6,069 square miles; Hasel and Schnabel set it down at 5,853; and the compilers of the Topographical Military Atlas, at 5,753; but we prefer, for the time being, the value of 5,733 square miles, which is that given by the last census, and which is so stated in the statistical appendix to the Revue du Rhin, a quarterly journal published in Strasbourg, which may be considered as the organ of the French government.

Of the 5,733 square miles, 5,712 square miles is land, and 21 square miles is water. The highest elevation is the Feldberg, in the Black Forest, 6,507 ft. above sea-level, and the lowest elevation is the Rhine, which flows through Baden from its northern to its southern extremity. The total length of the Rhine in Baden is 116 miles, and the average width at the mouth of the Rhine in Baden is 3 miles.

Population.—The population of Baden in 1871 was 1,264,820, or 216,824 more than in 1861. The population of the principal towns of Baden is as follows:—

<table>
<thead>
<tr>
<th>Town</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basel</td>
<td>68,492</td>
</tr>
<tr>
<td>Karlsruhe</td>
<td>53,292</td>
</tr>
<tr>
<td>Mannheim</td>
<td>37,598</td>
</tr>
<tr>
<td>Bregenz</td>
<td>29,293</td>
</tr>
<tr>
<td>Constance</td>
<td>23,293</td>
</tr>
<tr>
<td>Schaffhausen</td>
<td>22,293</td>
</tr>
<tr>
<td>Freiburg</td>
<td>20,293</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>18,293</td>
</tr>
<tr>
<td>Marburg</td>
<td>18,293</td>
</tr>
<tr>
<td>Würzburg</td>
<td>16,293</td>
</tr>
</tbody>
</table>

The population of Baden is largely agricultural, and the chief industries are vine-growing, silk-worm culture, and the manufacture of silk and silk manufactures.

Character of the Soil.—The soil of Baden is of two kinds:—

1. The Black Forest, which is a mountainous and hilly country, with a dense forest of oak, beech, and fir. The soil is generally poor, except in the valleys and along the banks of the rivers.

2. The Rhine valley, which is a level country, with a rich soil, and a dense population. The principal products are wheat, rye, and grapes.

The Rhine forms the boundary of Baden on the north, and is divided into two parts by the city of Basel, which is the capital of the canton of Schaffhausen, and the city of Constance, which is the capital of the canton of Konstanz. The Rhine is navigable for 1,200 miles, and the chief ports on its banks are Basel, Constance, and Freiburg.
Natural Productions.—It is an exaggeration to say, as it has been observed of Baden by one who was not a native, that 'it is a garden from the eye to the hand.' One third of its surface is covered by the Black Forest, and no inconsiderable extent by the Odenwald, it possesses a soil favourable to the growth of grain, wine, and fruit, and a large number of noble forests and navigable streams. The milder part of the Rhine, the majestic expanse of the Lake of Constance, and the other the rich lowlands of the Neckar; here the gentle plains of the Kinzig and Elz, there the less frequented areas of the Middle Rhine, and beyond, the picturesque valley of the Murz, the Arabella of Baden. Agriculture is the chief occupation of its inhabitants, and yields a surplus of produce for which Switzerland and France afford a ready market. Even in 1829, since which time the surface under the plough amounted to 1,155,000 acres or thirteen thirty-fifth parts of its whole extent; and it has increased in the present day to upwards of 1,400,000. It would be difficult, indeed, to instance any other region more superior to the Black Forest in the whole soil and less than six acres in every thousand. The meadow lands and pastures form more than a sixth part of the area of the Black Forest, and are highly valuable to the clergy and local school, which is estimated at 16,845,730 florins, the value of the property liable to land tax. It is the capital of a rapid country, but the rapid country is a capital of a rapid country, and of tobacco and hops, which are subject from the produce of the land, but of which the value is uncertain. It appears that Baden annually raises about 1,500,000 quarters of all descriptions of grain, and exports between 72,000 and 80,000 cartloads, also hay and other agricultural produce in superabundance. The upper and lower districts produce rye, barley, and hemp, of which the manufacture is reputed to be the finest in Germany, flax, and cotton, and the lower produces in particular, which include the former pasture lands of the Black Forest, are capable of producing quantities of tobacco and hops. Fruits are another article of cultivation in the mountain districts, which are grown in every quarter; and besides the ordinary fruits, which are extensively raised, and of all sorts and of all descriptions, the vineyards are made in most provinces; and the average produce of wine, which is chiefly cultivated on the high lands, and the valleys of the Rhine and Main at least as large as 1828, at 224,155 cartloads, or about 40,700,000 gallons, in a year. The favourite qualities of the Baden wines are Durbacher and others, which are grown in the district of Ostheim, the Margrafen (Magistrates), from the Abbey of Mönch, and Lorrach, and the Weinsberger, in the banks of the Main. Timber abounds, but more particularly in the Black Forest and the central and upper parts of Baden. The forests consist principally of the fir, pine, oak, beech, larch, and ash. The noblest trees are found in the district of Mühlheim and Lorrach, and the Weinsberger, in the banks of the Main. Timber abounds, but more particularly in the Black Forest and the central and upper parts of Baden. The forests consist principally of the fir, pine, oak, beech, larch, and ash. The noblest trees are found in the district of Mühlheim and Lorrach, and the Weinsberger, in the banks of the Main. Animals. — Horned cattle are bred chiefly in the Hercynia, the Baar, and the See, and the parts adjacent to Lake Constance, where the winters are long, the grass is deep, and the climate temperate. The breeding of sheep has much increased during the last few years, for the lands have been greatly improved by the grape establishment, which has introduced the growing of vines into the Land, and the whole mass more
now be estimated at 160,000 heads. The race of horses is said to be deficient both in quality and quantity, but pains are taken to improve the breed; their number does not exceed 75,000. Goats are reared in every part, to the number of 10,000, one-fourth of which are estimated to be worth or exceed 120,000. In several quarters honey and wax are obtained; and in all, poultry and domestic animals are found in abundance. The wild bear, stag, roe, fallow-deer, fox, badger, marten, otter, and wolf (the latter being seen occasionally in the Black Forest), the wild boar, falcon, eagle, kite, and owl, are the principal wild animals. Most of the lakes and rivers, the Neckar being a peculiar exception, are rich in fish; trout, sometimes fifty pounds weight, are caught in Lake Constance; and carp, weighing at times for more than 150 pounds, are caught on Lake Muckeck, and the Danube, produce the sturgeon.

Metals and Minerals.—Among the mineral productions we may enumerate the garnet, crystal, jasper, chalcedony, and onyx; marbles, alabaster, gypsum, chalk, porcelain-earth, and potter’s clay. Silver, copper, and lead are found along the valley of the Kusnig and Müsneter, and in the neighbourhood of Kork and Pforzheim. Silver to the amount of about 3,000 ounces annually; copper to about 900 cwt.; and lead of fine quality, in some years, to not more than 40. From 2,000 to 2,500 tons of iron are annually obtained from the mines at Stockach, Kander, the Black Forest, Hasenstein, &c. Inconsiderable quantities of coal, manganese, zinc, sulphur, salt, and uranium, are likewise raised. Salt, until of late years, was not a native product; but it is now obtained in such abundant quantities from the government saltwork at Dornheim in the higher regions of the Black Forest, and at Rappenau, near Mosbach, as to admit of the exportation of 50,000 out of 250,000 cwt. annually produced.

The grand-duchy is rich in mineral waters; the warm springs of Baden-Baden, on the north-western foot of the Black Forest, impregnated with sulphur, salt, and alum, have acquired a great celebrity. The springs of nearly the same quality exists in Badenweiler; acidulous waters are found at Greisbach, Antogast, Petersthal, and Rippstuhl; and sulphur springs and baths at Salzburg, Langenbrucken, and the like.

Territorial Subdivision, &c.—We have assigned our reasons, in a former page, for estimating the actual number of inhabitants at 1,200,000; the proportion of males to females being as 100 to 104. But this proportion varies, according to Malchus, in the several cantons; for in the circle of the Lake the excess of females is 6% per cent., and in that of the Lower Rhine it is 4%, whilst in the circles of the Central and Upper Rhine it decreases to 41 and 31 per cent. respectively. Professor Hau has also stated, that, on an average of nine years, for Carlsruhe, there were every 146 souls; one death in every 39 (which diminished to one in every 41 in 1827; and in that year the proportion of births to deaths was as 3 to 2). The inhabitants, according to Von Büchler and Demian, are thus estimated.

The chief establishments for the superior education of females are those in the convents at Baden, Freiburg, Offenburg, and Donaueschingen; the Protestant seminary at Wurtemberg, and that for young people of either persuasion at Rastadt and Constanza, for Protestants at Carlsruhe, and for both communions at Mannheim; and the two universities, of which that of Heidelberg, founded in 1386, is more particularly designed for Protestants, and that of Freiburg, for Catholics. There are Ferdinand’s and Charles’s schools at Carlsruhe and Freiburg, and establishments for the acquisition of mechanical science (or gewerbs-schulen) in several towns; a commercial academy at Mannheim; a theological seminary for Catholics at Freiburg, another for Protestants, and several institutions at Carlsruhe and Pforzheim; and an asylum for the blind at Bruchsal.

The chief establishments for the superior education of males are those in the convents at Baden, Freiburg, Offenburg, and Rastadt, under the special supervision of the public authorities; there are others at Mannheim, Carlsruhe, and Heidelberg. All affairs connected with national education, with the exception of such as relate to the religious universities, fall under the control of General Studies. The principal libraries are those of Freiburg (above 100,000 volumes), Heidelberg (70,000), Carlsruhe (75,000), Mannheim (70,000), and Donaueschingen (30,000). Among the numerous institutions for the advancement of the arts are the gardens: Botanic Garden, the Museum of Antiquities, Paintings, Coins, &c., the Society of Arts and Industry, and the Hebrew Society for the encouragement of Agriculture among the Jews, at Carlsruhe; the Galeries of Paintings, Natural History, Antiquities, &c., at Mannheim; the Municipal Industrial Society of Natural History and Physics, and the Hospital at Heidelberg; and the societies for promoting the natural sciences, and for encouraging the study of history, statistics, and antiquities, at Freiburg. The manufacturer of the grand-duchy does not rank high either for its extent, or for the
variety or superiority of its productions. Von Bertstett, ten years ago, did not estimate the number of establishments, in which manufactures were carried on upon a larger or smaller scale; but he professed that the rights of the female sex, and industry, must be well attended to, if the state of Baden, as we believe, is to be made to progress. Pförheim, Carlsruhe, and Mannheim are the chief places. The government possesses eight iron-works: the most extensive is at Albburg, whence about 1000 tons are annually obtained; but the whole produce does not exceed 50,000l. per annum. There are private establishments, likewise, such as those at Bachzimmern and Falzensee, in the principality of Fürstenberg; but the quantity which they bring to market is small. There is a manufacture of iron, of which the principal is at Lahr, and a very little of copper wire and utensils, copper ware, nails, &c. at Albburg, Schopfheim, Schönaur near Heidelberg, Pförheim, Freiburg, Mannheim, Carlruhe, and in various other places. Alum and vitriol are manufactured at Schrezeim, Gerspach, and Au; saltpetre at Schwarzwald, and gunpowder at Pförheim, Ettlingen, &c. The most extensive branch of the Baden manufactures is perhaps that of the middling and coarser descriptions of linen, which are carried on at Ottenheim ahr, Endingen, the Odemsal, &c., and in which about 10,000 hands are engaged. Next in importance are the woolen manufactories, established at Lahr, Pförheim (where the finest descriptions are woven), Michelstadt, and Sinzheim near Heidelberg, which, with some others, amount to about 10,000 hands. Manufac-
tories exist in most quarters, particularly at Gahrwill, Nusswill, Untereisen, St. Blasien, Pförheim, Mannheim, and the parts adjacent to the Black Forest. Silks are made at Lahr, Kandern, Schwäbisch, &c. There are two or three clock manufacturers, who are called Pförheim, the yearly returns of which average 60,000l. or 70,000l., besides those at Carlruhe and in other places; and the region of the Black Forest has been long cele-
brated, not only for the production of wooden Ware, but of wooden and brass clocks, from which about 700 master-
mechanics derive a livelihood. The paper-mills are thirty in number, the most extensive being those near Ettlingen and Niefern, where machinery is skillfully applied. Tobacco, porters and distilleries, glassware, &c., are also leading items in the enumeration of the products of Baden Industry. Ship-building is likewise carried on to some extent at Neckargemünd and Newenheim, in the neighbour-
hood of Heidelberg.

The regulations adopted by the legislature in July, 1822, have imposed very severe restrictions on the exercise of mechanical skill: every branch is placed under the super-
vision of Councillors of Industry (gewer-products), who are themselves subject to the control of the executive. The whole government is divided into fifty districts, with assistants, and masters, and no one is allowed to enter the last class except he be of age, and can produce proof of his skill.

Trade.—The position of the country on the Rhine, Main, Neckar, and other streams, and the access which they give it to Switzerland, France, and Germany, have rendered Baden a country of extensive transit, and secured to it outlets for its own productions. The institution of free ports at Mannheim, Schenekte on the Rhine above Carlruhe, and Freinstett on the same river, Ludwigshafen and Consta at on the lake of Constaat, and Heidelberg on the Neckar, has been dictated by sound policy. The imports of Baden, which, as well as its ex-
ports, are extensive, are sterlings of wheat, flour and meal, of bread and other wines, colonial produce, drugs and dyestuffs, iron, steel, cottons, silk, fine woollens, horses, cattle, &c., and its exports of timber, grain, meal, oil, skins and hoses, wine, hemp, linseed, tobacco, iron wares, jewellery, hemp, &c.

Government.—The executive and judicial powers in Baden are vested in the grand duke, and the legislative power shared by him with an upper and a lower chamber of representatives. The ducal prerogative is defined by certain enactments contained in the 'Constitutional Remonstrance, or charter,' of the 22nd August, 1818, which fixes the right of succession in the heirs male of the reigning family who are of the Protestant faith, and, in default of them, transfers it to the nearest collateral of the female line: the charter also establishes equality of civil rights among the inhabitants, exem-
plifies the duty of the due observance of its enactments, abolishes all exemptions from taxation, declares every male

liable to the military conscription, and places the judicial tribunals on an independent footing; it secures full liberty of conscience and private worship, and a community of po-

litical rights, the church being separate from the state, Lutheran, and Reformed faiths. The legislature consists of an Upper Chamber, the members (standes-herrn) of which are, the princes of grand-ducal blood, viz. the two Margraves of Baden, the six heads of the enclavarian families, &c., the princes of Fürstenberg, Bismarck-Hoorn, Lrowsen-
stein-Wettin, Leiningen-Neundorf, and Lennepingen-Bil-
lighem, whose possessions lie either wholly or in part within the borders of the grand-duchy; the Catholic arch-
bishop of Freiburg; a prelate of the Roman Catholic Order, a nobleman, who represents the nobility, provided they have an unincumbered estate of the value of 30,000l. at least; one representative for each of the two Universities, and a certain number of Chambermen elected by the grand duke, without regard to birth or rank, but not exceeding eight. The Lower House, therefore, at its full complement, is composed of thirty-six members. The Lower House consists of forty-

four representatives of districts and towns, chosen for eight years, and elected by all male individuals without distinc-
tion of rank, who are not representatives, or repre sented in the Upper House, who have attained their twenty-fifth year, are settled in some electoral district, or fill a public office. One-fourth of the members of the Lower House is removed every second year, and the whole of them must be either merchants, or inhabitants of the towns, which elect them. Both houses join in the election of a permanent com-
mittee, which is composed of the president of the Upper House, three members of the Upper, and six of the Lower House. The right of proposing laws belongs exclu-
sively to the grand duke, and may be extended to the Lower House, on the consent of the legislature, and the supplies are voted for two years consecutively. In case of a collision be-

tween the two houses, they form themselves into a single body, and the question is decided by a majority. There are five ministries.—namely, for foreign affairs and the grand-ducal house, and for justice, home affairs, finance, and war: the holders of these appointments, in conjunction with the grand duke or premier minister as president, the ministers bear the title of grand-chancellors, and are called 'the ministry of state.' Every circle has its own provincial government, and the circles themselves are subdivided into superior districts, inferior districts (ober-seemter, land-seemter, or other), each having its local functions, to whom are referred all matters within the province, and connected with the regular administration of justice, police, &c. The tribunal of first instance is the Hofgericht or Amt Council, of which there is one in each circle, and appeals from it go before the superior Amt Council, which sits at Mann-
heim, and is also divided into five sections. The supreme authorities are the ministers of state in the different departments.

Military Forces.—The grand-duchy of Baden is one of the thirty-eight states which compose the German Confederation; it holds the seventh rank in the list of confederates, standing between Wurttemberg and Electoral Hesse, and is entitled to an entire vote in the other diets, and one vote in the federal diet.

The contingent which Baden is bound to furnish for the army of the Confederation, and which forms the second division of the eighth corps, consists of 7251 infantry, 1429 cavalry, 729 a mortar, and 180 piece of artillery, amounting altogether to 10,000 men. But the whole mili-
tary force, under the existing scale, would be composed of 8586 infantry: namely, 1 battalion of grenadier biv-
guards 812 strong; 4 regiments of infantry 1717 each; 1 regiment of infantry 1664; and 655; of light infantry 3000 men. The cavalry is composed of 3 regiments of dragons (378 each) mustering 1894 men; the artillery, of 1 brigade of 670; and a corps of pioneers 226 strong; in all, 11,888. It has a naval service, in the river of Rhine, consisting of 493 artillery men and pioneers; amounting altogether to 5147 men, with 11,966 horses.

Finance.—The budget laid before the legislature of the past year (1833) states the gross receipts for the year 1832-3 to have amounted to 10,915,971 guilders, or about 1,051,800l., and the expenditure to have amounted to 10,524,150 guilds, or about 1,014,040l. It also estimates the former for 1832-3, at 10,972,738 guilders, or about 1,071,119l., and the latter for the same year at 10,792,645 guilds, or about 1,045,995l., or 345,993 guilds, or about 37,400l. applicable to the redemption of the debt. This item is independent of the
amount of the accumulative fund (bistaha-fund). Distributed amongst a population of 1,528,000 souls, it would hence appear that, at the present moment, the average amount of revenue derived from each individual is 172. 35d. per head. With respect to the public debt, we find it officially stated to amount to 25,307,834 gulden, or about 2,330,515l. With such sums, at its disposal, for the serious purpose of reducing the debt, which it is redeeming at the rate of four per cent. per annum, independently of any other appropriations in aid of it. The financial resources of Baden are of three descriptions; - indirect, from excise duties, customs, highway rates, &c.; and variable, from the produce of grand-ducal revenues, such as those derived from the salt-works, post-office, &c.

The house of Baden is one of the oldest families in Germany, and, according to its own showing, traces its descent from the antient Dukes of Alemania, who flourished in the seventh and eighth centuries. Their great ancestor was undoubtedly Berthold, Count of Breisgau, who lived in the eleventh century. With the castle of Zähringen, whence his posterity derive the name of Zähringer; this prince was the first duke in Swabia, and Herrmann II., his grandson, was the first who assumed the title of Margrave of Baden. Their descendants gradually became the most important family of Swabia, and their power extended to Switzerland, and Burgundy, but they, perhaps, the most to time trenched by partitions amongst collateral branches, until Ernest, the second son of Christopher II., became founder of the house of Zähringen, the ball of which, in 1287, acquired considerable celebrity from George Frederick, his son. The line of Baden-Baden becoming extinct in 1771, their scattered dominions, which lay between the Swiss frontier, the Rhine, and the Neckar, were united and the grand-duchy was born; an independent state, and one which they did not occupy a larger area than 1617 square miles, or contain more than 210,000 inhabitants. By the treaty of Luniverle, Baden acquired an accession of 1260 square miles of territory, and 245,000 inhabitants; and a further and much more considerable accession under the treaty of Pressburg in 1805. Two years before this treaty, Charles Frederick, in whose person the two houses were united in 1771, exchanged the rank of margrave for that of an elector of the empire, in which character he became Frederick. His wisest and most celebrated measure was his marriage with the Empress, the daughter of Louis XVI. In 1806 he married Stephanie, the adopted daughter of Napoleon, and again exchanged his title for the dignity of grand duke. At the settlement of Germany by the Congress of Vienna in 1815, the very existence of the Republic of Baden as an independent state hung upon a very thread. Bavaria was on the point of receiving an indemnity for its cessions to Austria by the transfer of the circles of the Main and Tauerb, as well as of the palatinate of the Rhine to its dominions, and Austria was to have received the Breisgau, when the Emperor Alexander, the grand duke's non-in-law, stepped in, and pronounced the dominions of Baden to be ' one and indivisible.' The latest addition made to the grand-duchy is the Earldom of Hohen-Geisleiden, which was granted to the duchy of Zähringen and von der Leyen in the Ortenau, by exchange of territory with Bavaria, to which Austria ceded it in 1819. It is 52 square miles in extent, and contains about 6600 inhabitants.

Tull's 'Grammar of the English Language.' 1840, Statistical and Topographical Description of Baden; Baur in ' Polizei's Jahrbucher,' 1836; Büchler's Description of Baden according to its Circles; Proceedings of the Lower House of the States-General of France; Manual of geography by Hirschmann, &c.

BADEN (also called BADEN-BADEN). Among the towns possessed by the various tribes, who inhabited the western parts of the antient 'Decumates Agri,' to which modern Germany nearly corresponds, was for ' Civitas Aurelia Aquensis,' a spot which was much frequented by Roman visitors in the days of Antoninus and Aurelius. It is situated in the centre of the grand-duchy of Baden, in 48° 40' N. lat., and 9° 15' E. long., about five miles from Rastatt, and eighteen south-west of Karlsruhe: it is built upon a hill which is covered by the remains of the antient Margraves; and it stands on the Neckar, or Oelbach, in a valley surrounded on all sides by woods covered with forests. The town is irregular and old-fashioned in its construction, and the walls were formerly protected by a ditch, which is now laid out in shady walks and grounds, and its prosperity chiefly depends on the numerous vines, which are often treble the ordinary population, and its celebrity to seventeen warm springs impregnated with salt, alum, and sulphur, which flow down from the hill on which the castle stands, and rise from a spot, to which the name of 'Hall' has been given when dry, varying, according to Stein, from 37° to 54° of Reamur (115° to 153° Fahrenheit), and their discharge is said to be above 11,420,000 gallons per annum. Even when other springs in the country are dry, these hot springs are perfectly translucent and pure, and will remain so, that they last for several weeks together in open vessels. The vapour arising from the hottest springs is collected and used by invalids in the shape of vapour-baths. There are chalybeate springs also in the neighbourhood, which is as remarkable for the salubrity of its climate and the luxuriance of its vegetation, as the varied and picturesque scenery in which it abounds. Indeed, a stranger may stay here for weeks; and never find himself at a loss for an unexhausted variety of recreation. This place, which is called 'Pamphylia,' the town, is not so much the castle as its extensive subterranean apartments, which some conceive to have been designed as places of shelter for persons and property, and others as constructed for the use of the secret tribunal of the Antients. In the middle of a part of some Roman ruins in the seventeenth century, contains the burying-place of the Margraves, and handsome monuments in memory of two of them, Lewis and Leopold-William: to the two with whom in the eighteenth century, was styled the 'Museum Palmatechnicum,' is a depository for all the remains of Roman antiquity brought to light on this spot. There is a small lyceum in the town, besides the school for females attached to the nunnery, eight hotels, and six public baths, an hospital, and an asylum for the poor. In the suburbs there are several hundred privates; the 'Maria-Zeller Hof,' purchased and endowed by the present emperor for the maintenance of ninety indigent sick persons; the hospital of the Virgin, built in 1815 by a society of ladies in rank in Vienna, for sixty invalids; a refuge for six men and women, founded by the townspeople themselves, and a multitude of establishments for the convenience of visitors. It is frequented by the fashionable people of the Austrian metropolis, to the number of between twelve and fifteen thousand every season. The waters of the sulphurous, and flow from eleven springs into fifteen reservoirs or baths, at the rate of 80,640 cubic feet every twenty-four hours. The temperature of the hottest spring is 30°, and of the coolest, 24° of Reamur; or by Fahrenheit's scale, the former of 86°, the latter of 75°. The hot springs of Bath, Baden is a distance of twenty-three miles, contains about 560 houses and 4500 inhabitants, and has a park and delightful gardens, besides pleasing environs.

BADEN, a town in the canton of Aarau, in Switzerland, on the left bank of the river, thirteen miles N.W. of Zürich. It was once the capital of the county of the same name, and was taken in 1415 by the Swiss Cantons from the Dukes of Austria, who by the treaty of peace of 1418 gave up their claims to it. It was from that time held in common by the seven other Confederates, the latter of which most was taken in 1798, when the baden was occupied by the French. In the war between the Protestant and the Catholic cantons which broke out in 1789, the Catholics took exclusive possession of Baden and of other parts of Aarau; but the troops of Bern and Zürich besieged Baden, the castle of which, after a vigorous resistance, surrendered
in 1718. By the peace of Aarau, 1718, the possession of Baden remained with the three cantons of Bern, Zürich, and Glarus, which sent by turns a landvoigt, or bailiff, who, as they call it, sat at Bern, in the canton of Switzerland, to administer justice. The population of Baden and its district was reckoned at the close of the last century at 24,000 inhabitants. After the French invasion of 1798, and by the subsequent recent modifications of the Swiss political system, Baden was incorporated with the new canton of Aargau. The town of Baden is small and dull; its population is about 1780; it is surrounded by walls; the castle, which was built on a steep hill, has remained until the present day, as it is one of the finest and wealthiest monastic houses in Switzerland. Baden is on the high road from Bern to Zürich. The baths of mineral water, which constitute the principal attraction of the place, are on both sides of the Limmat, half a mile below the town, and are much frequented, especially in the summer months. The water contains carbonic-gas, marble salts, glauber salt, carbonate of lime, and magnesia; it is clear, and has a slight smell of ammonia, and is used for drinking and bathing, as well as for bathing. These baths are especially recommended for several complaints peculiar to females. The country round Baden is hilly, and the lower heights are covered with vines, but the vineyard is not so extensive, or so well managed, as in some other parts of Switzerland. It produces the wine, and the wine of Baden is very acceptable to the French, by the name of Thermen Helvetiae, and are probably alluded to by Tacitus (Hist. ii. 67). The neighbourbood of the Roman colony of Vindonissa, which is only three miles distant, contributed probably to their celebrity. In the middle ages the baths were connected by a road to the Fortuna, by the name of Therme Helvetiae, and are probably alluded to by Tacitus (Hist. ii. 57). The beautiful landscape of the Roman colony of Vindonissa, which is only three miles distant, contributed probably to their celebrity. In the middle ages the baths were connected by a road to the Fortuna, by the name of Therme Helvetiae, and are probably alluded to by Tacitus (Hist. ii. 57). The beautiful landscape of the Roman colony of Vindonissa, which is only three miles distant, contributed probably to their celebrity. In the middle ages the baths were connected by a road to the Fortuna, by the name of Therme Helvetiae, and are probably alluded to by Tacitus (Hist. ii. 57).

BADENNOCH, a district in the south-east division of the county of Inverness, in Scotland. It is bounded on the east by the counties of Elgin and Aberdeen, on the south as far as the River Deveron, and on the west by the county of Ross-shire. It derives its name from a term which signifies bushy, having been originally covered with natural forests, of which some of considerable extent still remain. It is thirty-three miles in length, and twenty-seven in breadth. It is chiefly a mountains district, and is, but thinly populated. Loch Spey, the source of the river Spey, lies in Badenoch. Not far from this is seen the towering summit of Carnmore, a mountain which has long been celebrated for the variety of rocks and minerals found on it, and which were eagerly sought after by lapidaries until crystals equally beautiful and at one hundred and part the price, began to be imported from Brazil. Badenoch was in early times a bishopric of the Cummins, who for many centuries were the most powerful in the district. From its forfeiture by that family the celebrated Robert Bruce included it in the earldom of Morny, from which it was detached by Robert II., who granted it to his son, Alexander, so well known in Scottish history by the title of the 'Wolf of Badenoch.' The source of the River Moriston, the headwater of the river Moriston, the river which runs through the heart of Badenoch, remained in the crown until the year 1432, when it was given to the Earl of Huntley. Badenoch was long the property of the Gordon family, but has, within the last ten years, passed into other hands.

BADGER. The badger is a carnivorous mammal, included by Linnaeus among the bears, but, as well as the gluttons, raccoons, civets, &c., very properly separated from that group by succeeding naturalists. The Linnaean genus Ursus, as it came from the hands of the heraldic philosopher himself, was in fact nearly equivalent to the modern family of Carnivora, and, according to the characters upon which he formed its definition, would have included the greater number, if not the whole, of the species belonging to this family which have been discovered since his time. The opinions of zoologists, however, with regard to the extent and relative value of the groups, the subordinate ones in particular, of the animal kingdom, have undergone a very considerable modification since the death of Linnaeus; the multitude of new species which have been described by the progress which has been made within the last half-century is the science of comparative anatomy, and the application of the principles which this science has developed to the study of the habits and economy of animal life, rendered the subdivision of zoology a matter, not merely of choice or convenience, but of absolute necessity. Among the earliest subdivisions of this description that were introduced into mammalogy was the separation of the gluttons, badgers, and raccoons from the family of Carnivora, and this name has since been generally adopted. It is not, however, necessary to follow the badgers, and the badger, for a genus of the same name, to this group, as there is an additional genus of carnivorous animals, differing considerably in the form of their dentition, as well as in their habits and economy, which is placed under the same name; but which the prejudices of the times, that is to say, in resting upon the whole of the foot in the acts of standing, walking, and running, have given the badgers a name, and the badger a name. In the class of Carnivora, it is distinguished by a system of dentition which has many respects analogous to that of the meadow-mice (Apodemus), a genus of carnivora which, indeed, is scarcely to be recognized as differing from the badgers, except in certain external characters. The various modifications which depend upon this conformation of the teeth, as they are exhibited throughout the family generally, will be considered in the article Plantigrada; those which more particularly concern the badgers belong to our present subject.

The badger is a small carnivorous mammal, which, however, are in some respects peculiar, and it is this part of the dentition which principally distinguishes the badger from the other members of the same family. The under jaw, two and four on each side respectively, and by a carnassier and a single tubercular tooth of large dimensions; the whole system is better adapted for masticating and bruising vegetable substances than for cutting or tearing the flesh. The badger is less carnivorous than any other animal of the order to which they belong, except perhaps the bears. The quality of the food is, in all cases, necessarily dependent upon the nature of the dentition. The principal characteristics of the badgers consist in the teeth sometimes being both sharp and curved, and sometimes being flat and compressed; the head is generally less produced, the snout pointed, the ears small, and the tail short. Between the anus there is an aperture of considerable size, with a small transverse opening, and it is from its more surface of the earth, and not from the under surface, that the badgers rise. This妙 of the same formation is observed in many other genera of carnivorous mammals, though the qualities of the substances secreted differ according to the species. In the cater's case, for instance, its smallness is so pleasing as to constitute the head the most delicate of all the animals. On the contrary, its size is so extremely rude as to have required for them, above all other animals, the general name of megalops, or storks.
exhibit a more marked taste for vegetable than for animal food, at least when kept in confinement. With the powerful claws of their fore-feet they construct a deep and commodious burrow, generally in a sandy or light gravelly soil: this has but a single entrance from without, but it afterwards divides into different chambers, and terminates in a round apartment at the bottom, which is well lined with dry grass and hay. The habits of the badgers are extremely nocturnal; they are frequently found with the females of their own species, and as they sleep all day rolled up in their bed of warm hay at the bottom of their holes, they are always fat and in good condition; their flesh is good and very inoffensive in its taste. They cannot tire in any thing, but when it is covered with a dish of fresh milk, often to be found in Greece, as the ancient language of that country has not preserved a name for it; the same may be said of the European badger, which is also found in the southern than in the northern parts of Europe. Pliny however notes it under the name of Melis (vol. iii. p. 1), and various other Roman authors have spoken of it. More modern writers and zoologists, Pizar, perhaps derived, like other Roman names of northern animals, from a punic language, in which the badger is called Zorco or Dusco; in Dutch Dus. The female brings forth her young in the early part of spring, to the number of three, four, or five; she continues to nurse them during seven weeks, and afterwards accustoms them gradually to shift for themselves. When taken young they are easily tamed, and become as familiar and playful as puppies; they soon learn to distinguish their master, and show their attachment by following him about and feeding upon him; the old, however, are always indolent, and continue solitary and distrustful under the most gentle treatment.

The badger is hunted in some parts of the country during the bright moonlight nights, when he goes abroad in search of food; his hot fat flesh makes it a excellent table dish, to be eaten as roast, or as cutlets. His fur is valuable for making brushes, to soften the shades in painting, and his hind-quarters, when salted and smoked, make excellent hams. This kind of food, indeed, is not so universally esteemed in our own country as in China, where it is much sought after, and dozens of badgers at a time hanging in the meat markets of Pekin; but there is no reason why it should be inferior to the flesh of the bear, which is universally esteemed by a people who have no other means of subsisting.

2. The American Badger (M. labradorica, Sabine) measures, when full grown, about two feet and a half from the muzzle to the root of the tail, which is six inches more. Its snout is less attenuated than that of the European species, though its head is equally large. Its eyes are very small, round, and the claws of its fore feet much longer in proportion than those of the common species, its tail comparatively shorter, its fur of a quality altogether different, its colours also very different, and its appetites more decidedly carnivorous.

In describing the American badger, we have no right to presume upon the classification of the species, and, therefore, shall not attempt, with the dark ones in general, the darker shades of which are spread over the breast and abdomen. The head of the badger, for instance, is white, except the region beneath the chin, which is black, and two bands of the same colour, which run on each side a little behind the corners of the nose. The forehead is shining black, the ears and eye and ear, terminate at the Junction of the head and neck. The hairs of the upper part of the body, considered separately, are of three different colours, yellowish white at the root, brown at the top, and black at the point; the last colour alone, however, appears externally, and gives the uniform sandy grey shade which covers all the upper parts of the body: the tail is furnished with long coarse hair of the same colour and quality, and the throats, breast, belly, and hind legs are covered with shorter hair of a uniform deep black.

Though the badger is found throughout all the northern parts of Europe and Asia, it is rather a scarce animal everywhere. Its food is chiefly roots, fruits, insects and small animals, and infrequently it is found frequenting partridges and other birds which build on the ground, and attacks the nests of the wild bee, which it robs with

impunity, as the length of its hair and the thickness of its hide render it insensible to the sting of the bee. It chooses the most solitary woods for its residence, is quick and deceptively in its turns, exacts, but when it is covered with a dish of fresh milk, often to be found in Greece, as the ancient language of that country has not preserved a name for it; the same may be said of the European badger, which is also found in the southern than in the northern parts of Europe. Pliny however notes it under the name of Melis (vol. iii. p. 1), and various other Roman authors have spoken of it. More modern writers and zoologists, Pizar, perhaps derived, like other Roman names of northern animals, from a punic language, in which the badger is called Zorco or Dusco; in Dutch Dus. The female brings forth her young in the early part of spring, to the number of three, four, or five; she continues to nurse them during seven weeks, and afterwards accustoms them gradually to shift for themselves. When taken young they are easily tamed, and become as familiar and playful as puppies; they soon learn to distinguish their master, and show their attachment by following him about and feeding upon him; the old, however, are always indolent, and continue solitary and distrustful under the most gentle treatment.

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and the tail is nearly naked, being spuriously furnished with coarse scattered hairs, and in all respects similar to the tail of a domestic hog.

The individuals, a male and female, observed in the neighbourhood of the governor-general at Barrackpore by the French naturalist Duvancel, who furnished M. F. Cuvier with the statement from which the greater part of the above description is taken, were domesticated.

The female, however, was less savage than the male, and showed a certain degree of intelligence, which gave reason to believe that, if taken young, this animal might be easily domesticated. They passed the greater part of the day buried beneath the straw of their den in deep sleep. All their movements were remarkably slow. Though they did not altogether refuse animal food, yet they exhibited a marked predilection for bread, fruits, and other substances of a vegetable nature. While irritated, they uttered a peculiar kind of grunting noise, and bristled up the hair of their back; if still further tormented, they would raise themselves upon their hind legs like a bear, and appeared, had that animal, to possess a power in their arms and claws not less formidable than their teeth. This is confirmed by Mr. Johnson in his Sketches of Indian Field Sports. 'Badgers in India,' says he, 'are marked exactly like those in England, but they are larger and taller, are exceedingly fierce, and will attack a number of dogs. I have seen dogs that would attack an hyena or wolf afraid to encounter them. They are scarce, but occasionally to be met with among the hills. In their nature they resemble the bear.'

M. Duvancel and Cuvier write the native name of the animal Bad-soor, which they properly interpret and render:—Bad-Soor is known among the Mexican peasants from the detailed and correct description of Fernandes, who calls it by the native name of Haroyoll seu Cogoll-humal; and a very fine skin was some time ago sent from the island of Ceylon to the English Society of Naturalists.

3. The Indian Badger (M. Collinsi), called Balloon Soor, or bear-pig, by the Hindoos, is about the size of the common badger, but stands higher upon its legs, and is at once distinguished by its attenuated muzzle ending in a truncated snout, like that of the common hog, and by its small and nearly naked tail. The whole height of this animal is about twenty inches, and the length of its tail nine inches. It has the body and limbs of a bear, with the snout, eyes, and tail of a hog. Its ears are short, completely covered with hair, and surrounded by a slight border of white. The muzzle is plantigrade, and have toes on each, united throughout their whole length, and armed with vigorous claws an inch long. The muzzle is of a flesh colour, and nearly naked, having but a few hair #stretched over the sides of the nose, and the belly also is nearly destitute of hair. The general colour of the hair over every part of the body is a yellowish white, with black points; thus giving a dark-brown shade to the coat, that appears in white lines when the animal moves. The head is large and covered with short black bands which unite towards the muzzle; the inferior of these, which is very narrow, borders the upper lip; the other is much broader, and passes on each side of the eye, rounding the ear, and descending on each side of the neck, to terminate on the nape with the back colour which covers the anterior extremities uniformly. The whole of the throat, enclosed by these black bands, is of a similar colour to that of the body, but of a rather lighter and yellowish shade. The hinder part of the head is like the fore, and covered with short coarse hair. The yellowness white predominates on the rump,
BÆTICA, one of the ancient divisions of Hispania (Spain), so called from its chief river, the Bétis, now the Guadalquivir.

According to the arrangements of Augustus, Bética was bounded on the west and north by the Auras (Guadiana); on the east by the Atlas and Mediterranean; and on the coast by a line drawn from Near Ciudad Real, near the Guadalquivir, through Jaen and Granada to Moxcar, on the coast of the Mediterranean. Consequently, it comprised Sevilia; part of the Portuguese province of Alentejo; Spanish part of the Guadiana: the western or part of La Mancha: Cordoba; the western part of Jaen; and the chief part of Granada.

Before the time of Augustus, Spain was divided by the Romans into two great divisions, Hispania Citerior and Hispania Ulterior, the latter forming the greater part of the territory of Bética. The eastern limit of Bética at this time was near Cartagena, Carthagena.

The district, Bética, from which these two large divisions took their name, was the country drained by the lower course of the Bétis. The Sierra Morena on the north, and the western prolongation of the mountains of Granada on the south, close in the extensive plains of the lower Guadalquivir, which have so long been noted for their fertility. (Mackenzie, History of Spain.)

BÆTIS, in entomology, a genus of the order Neuroptera, and family Ephemeridae. This is one of the four genera of the British family of May-flies; the generic characters are taken from the number of wings, and the sexes or hair-like appendages to the body. The genus Bætis has four wings and two sets; Bætis has four wings and two sets; Brachycercus has two wings and three sets; and Cloeon has two wings and two sets. These sets are of great use to the little animal in steering its way through the water whilst it is swimming, and all must be present, which all must have observed. It is to the first of these genera (Ephemeræ) that the common May-fly belongs, under which head its metamorphosis and other peculiarities will be found.

BÆZA, BÉATIA, a city of Spain, in the kingdom of Jaen, situated on a hill commanding a fertile plain which is watered by the rivers Guadalquivir and Guadalamar. The country round is productive in grain, wine, oil, and fruit. The town has a name, vases, as in the case of the remains of its former grandeur, when it was in the power of the Moors. King San Fernando wrested it from the Mohammedan king in the year 1228; and in 1236, when that monarch conquered Cordoba, he added to his titles that of king of Bética. In the collegiate church of Bética are still preserved the arms of the thirty-three knights who accompanied the king to the conquest, and were the first settlers in the new Christian city. The present population of Bæza is 14,585. The town contains nine parishes, three hospitals, seven convents for monks, and a iame number for nuns, a cathedral, and a collegiate church. The episcopal see of Bæza was transferred to Jaen in 1248, after the conquest of the latter city, where it has remained ever since. Bæza is of a district comprising six towns: it is also the birthplace of Gaspar Becerra, a celebrated sculptor and painter of the sixteenth century. Its distance from Jaen is eighteen miles; it is in 37° 57' N. lat. 4° 28' W. long. (Mariano Diccionario; Mariana, Historia de España.)

BAFFIN, WILLIAM, an enterprising English navigator of the seventeenth century. Of his early life nothing is known. In 1613 he sailed in the fourth voyage of Hall an discovery to the north-westward, of which only so much is known as to him: it is written by him in a remarkable manner as the first voyage on record in which a method is laid down (as then practised by himself) for determining the longitude at sea by observations of the heavenly bodies. In the following year he went on a voyage to the coast of Greenland, in the narrative of which he notices the extraordinary refraction of the atmosphere, the quantity of which he calculated to amount to 44' as a maximum when a heavenly body is on the horizon. In 1615 he was appointed mate and associate to Robert Bylot on another voyage of discovery, for the set course of which we are also indebted to Baffin; and again the next year, he accompanied Bylot as pilot in an expedition which discovered and penetrated to the head of that extensive fiord which bears his name. It appears rather strange that the bay was not named after Bylot, the commander of the expedition. Of this voyage Captain Ross observes that

he found all the positions and descriptions of this able seaman remarkably accurate.

In 1618 Baffin was mate on a voyage from Surt to Mocha; and in 1631 he engaged in an English expedition in concert with the Persians to drive the Portuguese out of the Persian Gulf, in the course of which he was killed at the siege of Kiamis, a small fort near Oman. While employed in measuring the distance from the place, for the purpose of cannibalizing it. (Purchas's Pilgrims.)

BAFFIN'S BAY is an extensive gulf on the N.E. coast of America, between the shores of that continent and the western coast of Greenland. It is comprised between the parallels of 68° and 78° N. lat., and the meridians of 31° and 90° W. long., and lies in a N.N.W. direction. It is about 750 miles long, with a mean breadth of about 200 miles, thus giving an area much greater than that of the north of England. It was first explored by Baffin in 1616, in company with Bylot, but his accounts of its extent to the northward were always much doubted, until corroborated by Captain Ross in 1818. Its shores are generally high, with perpendicular cliffs rising sometimes to the height of 500 and 1000 feet above the sea, and backed by stupendous ranges of mountains, always enveloped in snow. On the surface of the land above the cliffs is found a scanty appearance of vegetation, principally mosses and ground-birch. The cliffs are not very far penetrated into deep ravines, which become filled with snow: as the snow increases, it projects into the sea, till, detached by its own weight, it forms the nucleus of those immense icebergs which are met with in these seas.

The prevailing geological features of the coasts are granite and gneiss, abounding in garnets; there are also found porphyry, chaledony, quartz, basalt, Jasper, and a wood coal. Beavers, black foxes, and harps; walruses and seals; pterigrams, terns, gulls, ciders and other ducks, auks, and

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its breadth varies from about 480 to 750 feet, and at
Mannheim it is about 200. The six flying bridges
which cause it to afford to Baden a means of commu-
nication with France and Switzerland, namely, in the
west, to Kehl and Mannheim, and in the south, at
Kaisersulzbach, Lauffen-
burg, Seckingen, and Rheinfelden. Its winding course
is intersected by numerous islands, abounding in wood
and game; its waters are rich in fish, and its bed abounds
gold-dust and crystal, in small quantities, it is true, but
the search after the gold employs a considerable number
of people, as prosecuted at thirty different spots, and produces
from 400,000 marks a year. In former times the coin which was struck from it bore
for its motto 'Sic fulgent hitora Rheini.' The principal tribu-
taries of the Rhine on the Baden side are the Neckar,
which after descending the lovely vale of the Neckar,
enters the grand-duchy from Wurttemberg; it then winds
first to the north and then to the south as far as Neckar-
Gemünd; and thence flows, north-westwards, through the
narrow lowland between the Black Forest and Odenwald,
and passing Heidelberg, falls into the Rhine at Mann-
heim. The Mann, another navigable stream, forms the par-
tial boundary of the northern districts of Baden, and before
quitting its territory receives the Tauber above Wertheim,
the latter has traversed the north-eastern part of the
circular lake. The Tauber rises on the Wurttemberg side of the Black Forest, runs from south-east to
north-west through Hansach, Gengenbach, and Offenburg,
in the circle of the Middle Rhine, and discharges itself into
the Rhine at the city of Offenburg. The Muselv is a noble
stream of inferior utility for the transport of timber, enters from
Wurttemberg at Forbach, runs northwards and then north-
westwards, through the delightful vale which bears its
name, to Rastatt, near which town it receives the Oos, and
flows into the Rhine at Steinsmauer north of Rastatt. The
Wutach rushes south-eastwards through the wild regions
of the Black Forest, joins the Schlucht below Thiergern,
and enters the Rhine south of that town. The Elz rises in
the higher regions of the Black Forest, at no great dis-
tance to the north of Mannheim, in the northern part of the
region of the Lower Rhine, runs in a winding and rapid course past Waldkirch, Emmendingen, and Renningen, is joined by
the Dismay (or Tresmam) at Riegel, and flows into the Rhine
together with several arms in the neighbourhood of Nieder-
hausen and Kuppen.

The largest lake within the grand-duchy is composed of
that portion of the Lake of Constance which is the entire
property of Baden, consisting of the Zeller, or Unter See,
bordered on the south and four on the east by the
picturesque island of Reichenau is situated; and the
Ueberlinger See, an arm of the Lake of Constance, which
extends between the south-eastern part of the circle of the lake,
and is encircled by the beautiful islet of Mannau. These
waters are surrounded by mountains, but of more impor-
tance in the grand-duchy is the Ueberlinger See, near Lake
Constance, a small but deep sheet of water, in
which sturgeon are plentiful (called 'wellers') of one hundred pounds
weight are caught; the Illmen See, south of Pfaffenhofen,
noted for the abundance of its fish, and within the region
of the Black Forest, the Schiltach See, near the spot of that
name; the Feld See, 2207 feet above the sea, which is
united by the Gutach with the Titt See; the Eicher See,
in the Black Forest. The Illmen See, at an elevation of
1467 feet, whose waters suddenly, in the upper part of the
river, form a lake and at others being converted into arable or grazing land; and the Nonnattaler,
or Nonnattaler See, at an elevation of ten feet, and
within the grand-duchy of Baden, which rises 1600 feet above it, and celebrated, not as the recluses,
people of the other lakes have the Moonnel See, or Loetsch,
Mirabel, to be, as the residences of monks for its floating island of turf, from six to twelve feet in the
water, which is cut away in the bank of its southern

**Climate** The climate throughout the levels and valleys,
which are bounded by the Rhine, as the deep embossed
by the mountains, is mild and conducive to health,
and is characterized by salubrity, a fact which is proved by the
vigour of frame and longevity to which its inhabitants
attain.

**Natural Productions**—It is no exaggeration to say, as
has been observed of Baden by one who was not a native,
that it is pre-eminently the 'Eden of Germany.' To one
third of its surface is covered by the Black Forest, and
no measurable extent by the Odenwald, it possesses a
whole series of noble forests and navigable streams. The grand-duchy
in its beauty and variety of scenery is perhaps
more highly prized by the inhabitants than the
picturesque valley of the Murg, the Aradena of Baden.

Agriculture is the chief occupation of its inhabitants, and
it yields a surplus of produce for which Switzerland and France
are not competant. Even in 1809, when the grand-

It would be difficult, indeed, to instance any other
conditions where the waste lands constitute so small a portion of the whole soil as less than six acres in every thousand. The
meadow lands and pastures form more than a sixth of the area and are supplied by the mountains above mentioned. The
invaluable possession of the grand-duchy has obtained an accession of 160,000 acres, the surface under the plough amounted to 1,355,000 acres
or thirteen-fifths of its whole extent, and it would be
interested in ten years to double its revenue. It

It yields, also, hay and other food for horses and cattle in
superabundance. The upper and lower districts produce
rapeseed, hemp, of which Thengen is reputed to grow
the finest; and even in the most interior parts of the

The principal product of the Black Forest is timber,
the forests in the interior of the Black Forest are raised for

The forests are principally of pines, firs, and spruces; and

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now be estimated at 100,000 heads. The race of horses is said to be deficient both in quality and quantity, but pains are being to improve the breed; their number does not exceed 75,000. Goats are reared in every part, to the number of about 23,000, and the swine amount to 310,000 or 320,000, as in the principal wild animals. Mice, rats, and all poultry and domestic animals are found in abundance.

The wild boar, stag, roe, fallow-deer, fox, badger, martens, otter, and wolf (the latter being seen occasionally in the islands of the Rhine), the vulture, eagle, falcon, hawk, and many other birds, are in great plenty. The streams and lakes, the Neckar being a peculiar exception, are rich in fish; trout, sometimes fifty pounds weight, are caught in Lake Constance; and carp, weighing at times forty pounds, in the Rhine. Lake Constance, as well as Lake Constance, and carp, weighing at times forty pounds, in the Rhine.

Metals and Minerals.—Among the mineral productions we may enumerate the garnet, crystal, jasper, chalcedony, and onyx; marbles, alabaster, gypsum, chalk, porcelain-earth, and potter's clay. Silver, copper, and lead are found along the valley of the Kinzig and Munster, and in the neighbourhood of Kork and Pforzheim; silver to the amount of about 85,000 ounces annually; copper to about 900 cwts., and lead of fine quality, between 80 and 100 tons in some years. About this time the mines of Stoschau, Kandern, the Black Forest, Hauenstein, &c., are inconsiderable quantities of cobalt, manganese, zinc, sulphur, coal, alum, vitriol, and bismuth, are likewise rare. At this time, about 12 years ago, the iron to be obtained in the mines of Stoschau, Kandern, the Black Forest, Hauenstein, &c., is not now obtained in such abundant quantities from the government salt-works at Durlach in the higher regions of the Black Forest, and at Rappehn, near Mosbach, as to the amount of the exportation of 358,500 cwts. annually.

The grand-duchy is rich in mineral waters; the warm springs of Baden-Baden at the north-western foot of the Black Forest, impregnated with sulphur, salt, and alum, have been greatly celebrated for their curative properties; but seem to be of the same quality existing in Badenweiler; acidulous waters are found at Greisbach, Antogast, Petersthal, and Rippolstaub; and sulphur springs and baths at Salzbach, Langenbruecken, and other places.

General Subdivision, &c.—We have assigned our reasons, in a former page, for estimating the actual number of inhabitants at 1,206,000; the proportion of males to females being as 100 to 104.4. But this proportion varies, according to Macliasm, in the several circles; for in the circle of the Lower Rhine it is 100, with 10 residents, forming 100 to 1 in that of the Lower Rhine it is 115; whilst in the circles of the Central and Upper Rhine it declines to 41 and 31 per cent., respectively. Professor Rau has also stated that, on an average of nine years, there is one marriage annually in every eight of the districts at Carlsruhe and nei- ther to one in every 413; and that, in that proportion of births to deaths was as 3 to 2. The inhabitants, according to Von Büchler and Deimann, are thus located, viz.:—

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<th>Market Villages</th>
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In 1690, in the 'Circle of the Upper Rhine,' the chief town was 1,206,000; and the capital of the first district, Carlsruhe, was 21,818.

In 1690, in the 'Circle of the Lower Rhine,' the chief town was 1,206,000, with 20,750 inhabitants, and 51 districts.

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To these details it may be added, that the whole number of houses in the grand-duchy amounted, in the year 1823, to 134,710; and their value, with offices and other appendages, as estimated by the National Institute, the Universal Institute, was increased to about 150,000.

The inhabitants, with the exception of several hundred descendants of French Huguenots, and about 1,000 Jews, are of pure German extraction. They consisted in 1329 of 792,723 Roman Catholics, 363,461 Protestants of the Lutheran and Reformed-Lutheran persuasions, 1,428 Mennonites and Hervormden, and 18,703 Jews. For the purposes of ecclesiastical government, the country is divided into sixty-four Catholic and thirty Protestant deansures.

The head of the Catholic church of Baden is the archbishop of Freiburg, whose jurisdiction also extends over the principalities of Holsteinlern, and within whose metropolitan diocese, according to the German law, the bishops of Fribourg (Mainfheim, Heilbronn, Freiberg), Fulda (Hesse-Cassel), Rotterdam (Wurttemberg), and Lübeck (Holstein) constitute the ecclesiastical province of the Upper Rhine. No church affairs can be referred to the foreign tribunals. Marriage, according to the laws of German birth can be admitted into the hierarchy, nor can any rate or duty be exacted by a foreign authority. The diocese of Freiburg comprehends the whole grand-duchy; the diocese is 14,700 square miles, about 140 miles long, and 70 miles broad; its population amounts to 738. The following numeraries which are allowed to exist are subject to rigid regulation, and their attention is principally directed to female education. The Protestant society of souls is 392. Every individual, whatever his creed may be, possesses equal civil rights, provided his principles and conduct be not inimical to the allegiance which he owes to the sovereign, and the peace and well-being of the community at large; but the edict of May 14th, 1697, under which the general peace was guaranteed to the Catholics and Protestants who are Trinitarians from being employed in the public service. Rau states the increase of the three leading communities, between 1819 and 1827, to have been in the following proportions: Jews, 1,317 per cent.; Roman Catholics, 1,106 per cent.; and Protestants, 1,044 per cent.

Education.—The diffusion of sound instruction has long been an object of concern with the Baden government. With this view a seminary for the formation of Catholic teachers is established at Rastadt, and another for Protestant teachers at Carlsruhe. There are also grammar schools, and other elementary schools, as well as Sunday schools and schools of industry for the lower classes in most towns and villages, where upwards of 2,500 teachers are employed, and twenty well-conducted elementary schools for Hebrew children, there are numerous institutions for the education of the three leading communities, the twelve Latin schools; the three Catholic establishments for educating masters at Tauberbischofsheim, Eringen, and Baden; and the four Protestant academies of the same description at Pforzheim, Durlach, Carlsruhe, and Heidelberg: the four Catholic gymnasiums at Bruchsal, Offenburg, Freiberg, and Donaueschingen; the Protestant gymnasium at Wertheim, and that for youth of either persuasion at Heidelberg: the four Lyceums, as Roman Catholic at Heidelberg and Crailsheim, and for both communions at Mannheim; and the two universities, of which that of Heidelberg, founded in 1386, is more particularly designed for Protestants, and that of Freiburg, founded in 1466, for Catholics. There are polytechnic and other educational institutions, and the acquisition of mechanical science (or gewerbs-schulen) in several towns; a commercial academy at Mannheim; a theological seminary for Catholics at Freiburg, and another for Protestants at Carlsruhe; and a depot and authority at Carlsruhe and Pforzheim; and an asylum for the blind at Bruchsal.

The chief establishments for the superior education of females are those in the convents at Baden, Freiberg, Offenburg, and Rastadt, under the special superintendence of the public authorities; there are others at Mannheim, Carlsruhe, and Heidelberg. All affairs connected with national education, with the exception of such as relate to the two universities, fall under the cognisance of the Board of the General State. The principal establishments are: the gymnasia at Freiberg (above 100,000 volumes), Heidelberg (70,000), Carlsruhe (75,000), Mannheim (70,000), and Donaueschingen (30,000). Among the numerous institutions for the advancement of the arts and sciences are the excellent Museum of the Natural History of the University of Heidelberg, and the Society of Arts and Industry, and the Hebrew Society for the encouragement of Agriculture among the Jews, at Carlsruhe; the Galeries of Paintings, Natural History, Antiquities, &c. at Mannheim; the grand-ducal Society of Natural History at Pforzheim; and the hospital at Heidelberg; and the societies for promoting the natural sciences, and for encouraging the study of history, statistics, and antiquities, at Freiburg.

Manufactures.—The manufacturing industry of the grand-duchy does not rank high either for its extent or for the
to the military jurisdiction, and places the judicial
tribunals on an independent foot. A council of
coservatives, composed of the princes of
conscience and private worship, and a community of pol-
itical rights to the professors of the Roman Catho-
lic, Lutheran, and Reformed faiths. The legislature
consists of an Upper Chamber, the members (standsberge) of
which are, the princes of ducal blood, viz., the two
Margraves of Baden, the six heads of the senatorial families,
the princes of Fürstenberg, Salm-Kranenburg, Lowen-
stein-Wertheim, Leiningen-Neudonau, and Lenningen-Bil-
ligheim, whose possessions lie either wholly or in part
within the limits of the grand duke's empire, and certain
members chosen by the grand duke, without regard to
birth or rank, but not exceeding eight. The Upper
House, therefore, at its full complement, is composed of
thirty-six members. The Lower House consists of sev-
eventy-four representatives of districts, land districts, or
estates years, and elected by all male individuals without distinc-
tion, who are not representatives, or represented in the
Upper House, who have attained their twenty-fifth year,
are settled in some electoral district, or fill a public office.
The fourth of the members are elected each year,
every second year, and the whole of them must be either of
the Roman Catholic, Lutheran, or Reformed persuasion.
Both houses join in the election of a permanent com-
mitee, which is composed of the president of the Upper
House, and certain members of the Lower House. The
right of proposing laws belongs exclu-
sively to the grand duke. No tax can be levied with-
out consent of the legislature, and the supplies are voted
by the grand duchy each year.

In cases of collision between
two of the houses, they form themselves into a com-
bined body, and the question is decided by the majority of
votes. There are five ministries,—namely, for foreign affairs and
the grand-ducal house, and for justice, home affairs, finances,
war; and the cabinet is represented by the
grand duke or premier minister as president, the
commander-in-chief, and the head of the staff, form what is
called 'the ministry of state.' Every circle has its own
provincial government, and the circles themselves are sub-
divided into superior districts, land districts, or
estates (oberamt, land- amt, or aemter), each having its local
functionaries, to whom are referred all affairs connected
with the regular administration of justice, police, &c.
The tribunal of first instance is the Hofgericht or Aulc
Council, which sits in the city of Baden; it is one year in
session, and then it holds a court of audit, and the munici-
pals, amounting altogether to 10,000 men. But
the whole mili-
tary force, under the existing state, would be composed of
1,850 infantry; 870 cavalry, and 100 pieces, amounting altogether
to 10,000 men. But the whole mili-
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tary force, under the existing state, would be composed of
1,850 infantry; 870 cavalry, and 100 pieces, amounting altogether
to 10,000 men. But the whole mili-

In its present reduced fortification, however, the
officers require its state composition to be 3,603 infantry, 1,595 caval-
ry, and 495 artillerymen and pioneers; amounting altogether
to 9,147, with 1196 horses.

In consequence, therefore, before the legislature of the past
year (1832) states the grand receipts for the year
1831-2 to have amounted to 10,915,971 gulden, or about
1,051,806£, and the expenditure to have amounted to
10,924,130 gulden, or about 1,041,040£. It also esti-
mates the former for 1832-3 at 11,622,852 gulden, or about
1,821,116£, and the latter for the same year at 12,393,646

...
amount of the accumulating fund (betriebe-fond). Distributed among a population of 1,523,000 souls, it would hence appear that the amount of money raised is 17s. 3d. per head. With respect to the public debt, we find it officially stated to amount to 25,307,834 guuld., or about 2,436,315£, which sum, by making allowance for the active capital of the sinking fund, may be reduced to a net amount of 21,945,614 guuld., or about 2,210,650£. A portion of the royalties, namely, the produce of the salt-works, which averaged 920,733 guuld., or about 88,820£, for the years 1832 to 1841, is assigned for the gradual extinction of the debt, which, according to the central state liability law, is determined to be extinguished in about 115 years (115th to 159th Fahrenbein), and their discharge is said to be above 11,420,000 guuld. per annum. Even when other water is foul, that which flows from these hot springs is purely transluscent, pure, and will remain so, though kept for several weeks together in open vessels. The water rising from the hottest springs is collected and used by invalids in the shape of vapour-baths. There are chalybeate springs also in the neighbourhood, which is as remarkable for the salubrity of its climate and the luxuriance of its vegetation, as the varied and picturesque scenery in which it abounds. Indeed, a stranger may stay here for weeks, and never find himself at a loss for an unexploreable ramble. The most remarkable object near the castle is the 'Wasserschloss,' or water-palace, justly celebrated for the baying-place of the Margraves, and handsome monuments in memory of two of them, Lewis and Leopold-Wilhelm; the hall of antiques, built in the Doric style, and adorned with the 'Museum Palatium,' was dedicated in 1817, and all the remains of Roman antiquity brought to light on this spot. There is a small Lyceum in the town, besides the school for females attached to the nunnery, eight hotels with baths, an hospital, and adjoining the town a handsome and commodious house, which is open and free for its rooms, &c. for the recreation of the visitors. The number of inhabitants is upwards of 4000.

Baden, a town in the province of the Lower Rhine in the Archduchy of Austria, about fifteen miles due south of Vienna, and of the city of Basle. It was entirely destroyed by fire in the year 1812, but has gained much in architectural beauty by the calmness. None of its older structures are left but the old Gothic church, among the modern structures are the new church of St. Paulus, the hospital, the barracks, the imperial residence, the town-hall and theatre, the 'Sauerhof,' containing ninety dwellings, several baths, a military hospital, with baths for the reception of sixty officers and three hundred privates. The town is richly supplied with water, and endowed by the present emperor for the maintenance of ninety indigent sick persons; the hospital, in built in 1815 by a society of ladies of rank in Vienna, for sixty invalids; a refuge for six men and women, founded by the townsmen themselves, and a multitude of establishment for the convenience of visitors. It is frequented by the fashionable people of the Austrian metropolis, and the principal establishments here are the park and delightful gardens, besides pleasing environs.

Baden, a town in the canton of Aargau, in Switzerland, on the left bank of the river Limmat, thirteen miles by rail from the city of Zürich. The town is the seat of the diocese of the same name, and was taken in 1451 by the Swiss Cantons from the Duchy of Austria, who, by the treaty of peace of 1418 gave up their claims to it. It was from that time held in common by the seven older cantons, as a subject territory. By the treaty of 1799, the Catholic cantons which broke out in 1799, the Catholics took exclusive possession of Baden and of other parts of Aargau; but the troops of Bern and Zürich besieged Baden, the castle of which, after a vigorous resistance, surrendered
in 1714. By the peace of Aarau, 1718, the possession of
Baden was retained by the three cantons of Bern, Zürich, and
Olarus, which sent by turns a landvogt, or balt, as they
call that magistrate in French Switzerland, to administer
the country. The population of Baden and its
district was reckoned at the close of the last century at
24,000, and has been since diminished to about
12,000. After the French invasion of 1798, and
by the subsequent remodelling of the Swiss political
system, Baden was incorporated with the new canton of
Aargau. The town of Baden is small and dull; its
population is about 1700; it is surrounded by walls; the castle,
white and remains in fine, is in pleasant position on a hill,
and is one of the finest and wealthiest monastic houses in Swit-
zerland. Baden is on the high road from Bern to Zürich.
The baths of mineral water, which constitute the principal
attraction of the place, are on both sides of the Limmatt, a little
mile below the town, and are much frequented in summer.

A village has arisen round these springs, which is nearly as
large as the town itself, and much more lively and hand-
some; it contains half-a-dozen large hotels, besides smaller ones
of moderate size; a variety of baths is in course of construction, and
accommodation for visitors. The numerous company that
is found here in the summer months is drawn from every part of
Switzerland, but chiefly from Zürich, the citizens of
which town consider Baden as their regular watering-
place. It is also the resort of Count Bernhauer, the Swiss
prince. There are two large common baths to which the poor
have access gratis. There are several springs issuing from the
ground; the hottest is 107° of Fahrenheit. The water con-
tains carbonic-gas, marine salt, glauzer salt, carbonate of
lime, iron and magnesia, in its clear state, has a slight smell
of sulphur, and is used for drinking, as well as for bathing.
These baths are especially recommended for several com-
plaints peculiar to females. The country round Baden is hilly,
and the lower heights are covered with vines, but the wine
made from them is not esteemed of much account. The
Euler, by the name of Thome Helvetium, and are probably alluded to
by Tertius (Hist, II. 67). The neighbourhood of the
Roman colony of Vindonissa, which is only three miles dis-
tance, contributed probably to the establishment of the Romans
in Baden. Ages the baths of Baden were much frequented, especially
at the epoch of the Council of Constance; and Poggio, the
Florentine historian, gives in his letters a curious, but per-
haps an exaggerated, account of the licentious life people were
lived here. The Concedation used to meet at Baden until 1712, when
the meetings were transferred to Frauenfeld, in Thurgau.

BADENOCH, a district in the south-east division of the
county of Inverness, in Scotland. It is bounded on the east
by the river Spey, on the north by the river Black Water, and
west by Athol, and on the north by Naurnank. It
derives its name from a term which signifies bashy,
being formerly covered with natural forests, of
which some of considerable extent still remain. It is
thirty-three miles in length, and twenty-seven in breadth.
It is chiefly a mountainous district, and is but thinly
populated.

Loch Spey, the source of the great river Spey, lies
in Badenoch. Not far from this is seen the tower
especially of Inverness, a mountain which has long been cele-
brated for its mineral springs, which were first found on it, and which were so eagerly sought after by lacta
people until crystals equally beautiful and at one-hundredth part the size, began to be imported from Brazil. Badenoch
was in early times a lordship of the ancient Earls of Ross, who held many services of the people of Scotland. On
its forfeiture by that family the celebrated Robert Bruce
included it in the earldom of Moray, from which it was de-
trusted to Robert II., who granted it to his son, Alexander,
who, in the wars following, in the year 1314, was slain at
the battle of Badenoch. The issue of the latter failing, the lordship
of Badenoch remained in the crown until the year 1432,
when it was given to the Earl of Huntley. Badenoch was
long the property of the Gordon family, but has, within the
last few months, passed into other hands.

BADGER (Merle, Cuvier), in zoology, a genus of plaza-
grade, carnivorous mammals, included by Linnaeus among
the bears, but, as well as the gluttons, raccoons, coatis, &c.,
very properly separated from that group by succeeding
naturalists. The Linnaean genus Ursus, as it came from
the hands of the Swedish philosopher himself, was an art
very nearly equivalent to the modern family of plantigrade
carnivora, and, according to the characters upon which he
formed its definition, would have included the greater nu-
mer, if not the whole, of the species belonging to this family
ever since has been applied to this; and yet, according to the
views of zoologists, however, with regard to the extent and relative
value of the groups, the subordinate ones in particular, of the
animal kingdom, have undergone a very considerable modi-

cation since the death of Linnaeus; the multitude of new
species which have added to our knowledge of this branch of
zoology, the progress which has been made within the last half-century in the science of comparative anatomy, and the application of the
principles which this science has developed to the study
of the habits and economy of animals, render it impossible for
the Linnaean division of the order of the carnivores to be
applied in its old form. The orders of carnivores which Linnaeus
divided into groups are now generally acknowledged as
true bears, and their formation into distinct genera
make the genus Ursus of Linnaeus thus become a group of
higher order, itself composed of several genera; and
the diversity of formation and habits observable among these
different genera of Carnivora is now so great that
other genera have been discovered and associated with
the same group, so that the family of Canidae, as it has
been called by Cuvier, at present contains a considerable
number of carnivorous animals, differing considerably in
form and structure from the genuine Carnivores, the
economy, and agreeing only in the plantigrade form of
their extremities, that is to say, in resting upon the sole of the foot in the acts of standing, walking, &c.,
contradistinction to digitigrade animals, which transpor-
ted upon the toes. The various modifications which have
been brought about upon this construction of the extremities, as they are exhibited throughout the family generally, will be expat
in the article PLANTIGRADA: those which more particularly
concern the badgers belong to our present subject.

This genus is specially distinguished by the fact that
badgers, as distinguished from the true bears, are
digitigrade, or rather plantigrade, in form and
plantigrade formation of their extremities. There is nothing remarkable either in the size
or number of the incisor or canine teeth; the pancre
however, are in some respects peculiar, and it is this part
of the animal which is the distinguishing feature of this tribe.

There are four false molars in the upper and eight
under jaw, two and four on each side respectively, just
by a carinna and a single tuberculous tooth of large
dimension; the whole system is better adapted for masti-
ating and tearing flesh, than for crushing and tearing
real flesh; and in fact the badgers are less
carnivorous than any other animal of the order to which
they belong, except perhaps the bear. The
quadriceps of the foot is, in all cases, necessary dependent upon the
nature of the vegetable, the principal characteristic
features of this group of badgers consists in their having five toes both before and behind, short, strong, deeply buried in the flesh, and
furnished with powerful compressed claws admirably calcu-
lated for burglary or turning up the earth in search of
food. The badger is a very curious animal, well adapted for a
flat and compact, the head more or less produced at
the snout pointed, the ears small, and the tail short.

BRENNER, in anatomy, has an aperture of considerable size, and
opens transversely, and extends from its inner surface a
green or orange mucus, as well as in their habits. The
same formation is observed in many other genera of carni-
vores mammals, though the qualities of the substance
seemed different according to the species. In the civets a
very similar feature is observed, for it is not the
incisors, but to the rank of a tooth, which is in the forefront; in the contrary, its odour is so extremely foul that it is never inquired for, them above all other animals, the generic names of
maguira, or similar.
exhibit a more marked taste for vegetable than for animal food, at least when kept in confinement. With the powerful claws of their fore-feet they construct a deep and commodious burrow, generally in a sandy or light gravelly soil: this has but a single entrance, and with the burrow the body of the burrow it is guarded and protected from the winds, and the animal is forced to make its way into the burrow through a small slit, which is closed by a round stone. The habits of the burrow are extremely solitary: they are always found in company even when they are feeding, and even when they are in the burrow. If one of them is killed, all the rest roll up in their bed of warm hay at the bottom of their hole, and are always fat, and in good condition; their flesh is relished in many places as an article of food. They are not known to have any specific enemies. They are not known to have any specific enemies. Their flesh is relished in many places as an article of food.

In its geographical distribution the genus extends throughout the whole of Europe, Northern and Southern Asia, and North America. We have no accounts of its extending into Africa or South America, in the former of which it appears to be represented by the ratel (Gulo silvicola, Desmarest), and in the latter by various species of moussettes (Mephitidae). Australia possesses no species of mammal belonging to the plantigrade family, at least none has been hitherto discovered in that country; and in the Eastern Peninsula and Isles of India, the place of the badger is supplied by the tailed wolf (Mydas malabaricus, Cuvier).

The genus Melos is very limited indeed; all writers, without exception, have followed M. F. Cuvier's example, in excluding the Indian badger, for the purpose of making it the type of a new genus, though for what reason it would be difficult to say. The furniture and the general structure of the animal have never been properly described, and in all its other characters it differs in no respect from the common badger. Many, again, are disposed to consider the American badger as only a simple variety of the European: so that, according to these views, both species are included within a single genus. The observations of Dr. Richardson, however, have placed the distinctness of the American animal beyond a doubt; and so long as we have no definite observations to corroborate the approximation, we shall continue to associate the Indian species with those to which its known characters so nearly assimilate it.

1. The common Badger (M. vulgaris, Desmarest) is about the size of a mudding dog, but stands much longer on the legs, and has a broader and flatter head. The head is large, the black ears are set very close together, and the nose is small; the tail is short, and the tail and the body is so short that it scarcely reaches to the middle of the hind legs. The tail is amusingly thick and tawny; the hair uniformly long and coarse over the whole body, and only short and soft on the sides, the skin of the tail is soft, and the hair is silky. The badger and its congeners offer a strange intermixture of colours, which is seen in no other mammal, except those of the genera Gulo and Mephit, which, as already remarked, approximate so nearly to it in many other respects: in general, the darker shades are found to predominate upon the back and upper parts of the body, and the lighter below; but in the animals above-named, this general rule is reversed, and it is the light shades which occupy the back and shoulders, whilst the dark ones are spread over the breast and abdomen. The head of the badger, for instance, is white, except the region beneath the chin, which is black, and two bands of the same colour, which rise on each side a little behind the corners of the mouth, and, after passing backwards and enveloping the eye, descend in a wavy line to the side of the head and neck. The hairs of the upper part of the body, considered separately, are of three different colours, yellowish white at the bottom, black in the middle, and ash grey at the point; the last colour alone, however, appears externally, and the larger animals, when dead, the hair of which is of a dull brown, white. The hairs of the lower parts of the body: the tail is furnished with long coarse hair of the same colour and quality, and the throat, breast, belly, and limbs are covered with shorter hair of a uniform deep black.

The badger is found throughout all the northern parts of Europe and Asia, in Europe, and on the eastern side of Asia, and it is rather a scarce animal everywhere. Its food is chiefly roots, fruits, insects and frogs, but it likewise destroys the eggs and young of several species of birds, which build on the ground, and attacks the nests of the wild bee, which it robs with impunity, as the length of its hair and the thickness of its hide render it insensible to the sting of the bee. It chooses the most solitary woods for its residence, is quiet and inoffensive in its manners, but, when attacked, defends itself with a furious energy. The few dozen of double its own size and weight can overawe a dog, and it is angry, and holds on with great tenacity, which it is enabled to do more easily from the peculiar construction of the articulation or hinge that connects its under-jaw with its body. It is not always quite an honest rogue, but is at times guilty of a most Blackamoorish rascality, having been completely locked into a bonny cavity of the cranium. The badger is not mentioned by Aristotle, and possibly may not be found in Greece, as the antient language of that country has not even a name for it, and as it is less common in the north than in the south, its habitation is not frequent, and the lower parts of their burrows are even said to abandon them if accidentally or intentionally polluted by any other creature.

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The American badger (M. Labradorensis, Salvin) measures, when full-grown, about 15 inches in length, half from the muzzle to the root of the tail, which is six inches more. Its snout is less attenuated than that of the European species, though its head is equally long; its ears are short and round, the claws of its fore-feet much longer in proportion to its body than those of the European; they are also much more numerous, and the fur of its head is of a much lighter colour than that of the European. It is found in the United States, Mexico, and Peru; but there is no reason why it should be inferior to the flesh of the bear, which is universally esteemed by all who have an opportunity of tasting it.

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The American badger is called Brairo and Suffleur by the Canadians, Mouton and Armarisarou, by the dogging animal, by the Cree, and by the Chippewa. Its form and habits have been well described by Dr. Richardson in his admirable FisIon Boreale-Americana, a work of first-rate authority.

'The Melas Labradorica,' says Dr. Richardson, 'frequents the sandy plains or prairies which skirt the eastern side of the Mountain range, and on the banks of the Peace River, and sources of the River of the Mountains, in lit-
The individuals, a male and female, observed in the
collection of the governor-general at Barrackpore by the French
naturalist Ducan, who furnished M. F. Cuvier with the
statement from which the greater part of the above descrip-
tion has been extracted, were remarkably shy and wild.
They were, however, less savage than the male, and
demonstrated a certain degree of intelligence which gave reason to
believe that, if taken young, this animal might be easily
domesticated. They passed the greater part of the day
buried beneath the straw of their den in deep sleep, and
their movements were remarkably slow. Though they did
not altogether refuse animal food, yet they exhibited a
marked predilection for bread, fruits, and other substances
of a vegetable nature. When irritated, they uttered a
peculiar kind of grunting noise, and bristled up the hair of
their back; if still further troubled, they would raise
themselves upon their hind legs like a bear, and appeared
to have more power in their arms and claws not less formidable
than their teeth.

Ducan tells us that the Mr. Johnson in his "Indian Fables and
Bedford in India," says he, "are marked exactly like those in
England, but they are larger and taller, are exceedingly fierce,
and will attack a number of dogs. I have seen dogs that
would attack an ox or wolf to encounter them.

They are scarce, but occasionally to be met with among
the hills. In their nature they resemble the bear.

MM. Ducan and Cuvier write the native name of this
animal Bali-Saur, which they properly interpret as
meaning, in the original language of the country, that the
name is Bhallo-Saur, which signifies the bear's fur, and
alludes to the strange compound which
exhibits the characters of two very different
animals. The orthography of the French
writers in this case is incorrect; the words ought to be written
Bhalle-Saur, and with a little
correction it is very easy to perceive how the mistake in
the name of the animal may have originated. In fact, a
traveller like M. Ducan, entirely ignorant of Hindustanis,
or possessing but a very imperfect knowledge of that language,
would very readily confound the words Bhallo and
Khawoo, as pronounced by a native: since, as far as the
word is concerned, they only differ in the aspirate, though
the sounds are very distinct indeed; Bhalo, as correctly
translated by M. Ducan, signifying sand, whilst Bhaloo
(Bhalla in Sanskrit) is the common Hindustanis name for a
bear. Neither is the French traveller the first discoverer of
this animal, as imagined by M. F. Cuvier.

There is a
description of it in Buffon's "Quadrupeds," published at least
thirty years before M. Ducan's "Journey to India," and
accompanied with a tolerably good figure by that celebrated
engraver. Nor is it to be confounded with the Indian
badger of Tennant and Dr. Shaw, nor with that described
under the same name by General Hardwicke, and figured
in vol. ii. of the "Linnaean Transactions," all of which,
though the name itself, are at least referable to a very
proximate species.
BESUTICA, one of the antient divisions of Hispania (Spain), so called from its chief river, the Besuta, now the Guadalquivir.

According to the arrangements of Augustus, Besuta was bounded on the west and north by the Anas (Guadiana); on the south by the Atlantic and Mediterranean; and on the east by a line drawn from near Ciudad Real, near the Guadiana, through Jaen and Granada to Mazarac, on the coast of the Mediterranean. Consequently, it comprised Sevilia; part of the Portuguese province of Alentejo; Spain from that point to the south of the Guadiana; the western part of La Mancha; Carrión; the west part of Jaen; and the chief part of Granada.

Before the time of Augustus, Spain was divided by the Romans into two great divisions, Hispania Citerior and Hispania Ulterior, which latter are also called Bassetia. The eastern limit of Besuta at this time was near Cartagena Nova, Carthagena.

The district, Bassetia, from which two large divisions took their name, was the country drained by the lower course of the Besuta. The Sierra Morena, on the north, and the western prolongation of the mountains of Granada on the south, close in the extensive plains of the lower Guadalquivir, have so long been noted for their fertility.

The Besuta is the type of the order Neuroptera, and family Ephemeridae. This is one of the four genera of the British family of May-flies; the generic characters are taken from the number of wings, and the setae or hair-like appendages to the abdomen. The genus Ephemerodes has three setae; Brachycepurus has two wings and three setae; and Clorus has two wings and two setae. These setae are of great use to the little animal in steering its way through the air whilst performing that beautiful undulating flight, which is so conspicuous at sunset.

It is the common fly-belongs, under which breed metamorphosis and other peculiarities will be given.

BAFFIA, a city of Spain, in the kingdom of Jaen, situated on a hill commanding a fertile plain which is watered by the rivers Guadalquivir and Guadalimar. The country round is productive in grain, wine, oil, and fruit. The town enjoys a very pure air. There are in it many fine buildings of long duration, and it was the seat of the monks of the power of the Moors. King San Fernando wrested it from the Mogul king in the year 1238; and in 1236, when that monarch conquered Cordoba, he added to his titles that of king of Bassetia and the collegiate church of Besuta still preserved the coats of arms of the thirty-three knights who accompanied the king to the conquest, and were the first settlers in the new Christian city. The present population of Besuta is 14,555. The town contains nine parishes, thirty houses, and eleven convents for monks and the same number for nuns, a cathedral, and a collegiate church. The episcopal see of Besuta was transferred to Jaen in 1238, after the conquest of the latter city, where it has remained ever since. Besuta is the capital of a district comprehending six towns: it is also the birth-place of Gaspar Becerra, a celebrated sculptor and painter of the sixteenth century. Its distance from Jaen is eighteen miles; it is in 37° 52' N. lat., 3° 30' W. long.

William Baffin, an enterprising English navigator of the seventeenth century. Of his early life nothing is known. In 1613 he sailed in the fourth voyage of Hall on discovery to the north-westward, of which the only account we have is written by him; it is remarkable as being the first voyage on record in which a method is laid down (as then practised by himself) for determining the longitude at sea by observations of the heavenly bodies. In the following year he went on a voyage to the coast of Greenland, in the latitude of which he notices the extreme rarity of the motion of the atmosphere, the quantity of which he calculated to amount to 248 as a maximum when a heavy body is on the horizon. In 1615 he was appointed mate and associate to assist Bylot on another voyage of discovery, for the same set of which we are also indebted to Baffin; and again the next year, he accompanied Bylot as pilot on an expedition which discovered and penetrated to the head of that extensive bay which bears his name. It appears rather strange that the bay was not named after Bylot, the commander of the expedition. Of this voyage Captain Ross observes that he found all the positions and descriptions of this able seaman remarkably accurate.

In 1618 Baffin was mate on a voyage from Surat to Moheca; and in 1621 he was engaged in an English expedition in concert with the Persians to drive the Portuguese out of the Persian Gulf, in the course of which he was killed at the siege of Kismus, a small fort nearOrmuz, while employed in measuring the distance from the place, for the purpose of cannonading it. (Purchas's Pilgrims.)

Baffin's Bay is an extensive gulf on the N.E. coast of America, between the shores of that continent and the western coast of Greenland. It has perpendiculars between the parallels of 68° and 70° N. lat., and the meridians of 31° and 80° W. long., and lies in a N.N.W. direction. It is about 750 miles long, with a mean breadth of about 260 miles, thus giving an area more than double that of the Baltic. It was first explored by Baffin in 1616, in company with Bylot, but his accounts of its extent to the northward were always much doubted, until corroborated by Captain Ross in 1818.

Its shores are generally high, with perpendicular cliffs rising sometimes to the height of 500 and 1000 feet above the sea, and backed by stupendous ranges of mountains, always enveloped in snow. On the surface of the land above the cliffs is found a scanty appearance of vegetation, principally mosses and ground-berries. The cliffs are often rent into deep ravines, which become filled with snow, as the snow increases, it projects into the sea, till, detached by its own weight, it forms the nucleus of those immense icebergs which are met with in these seas.

A peculiar feature is the prevalence along the coasts of those small, high, and sharp conical rocks, whose form has suggested their being called moniments, as if they were the work of art. It is remarkable how void of large islands this tract of sea is, all those which border its shores (except Davis) being very small, and the centre of the bay being entirely without them. The depth of water, wherever it has been tried, has been found very great. The shores are deeply indented with sounds and bays, few of which have been examined. The ice, which extended in a compact state several leagues from the shore, prevented Captain Ross from exploring those two large arms to the northward, called, by Baffin, Smith's and Whale Sound; but the largest of these bays, formerly known as Sir James Lancaster's Sound, was passed through by Captain Sir Edward Parry in 1819, who gave it the name of Barrow's Straits.
BAG

BAFFIN'S ISLANDS, a cluster of three small, barren, and uninhabited islands on the eastern shores of Baffin's Bay. They are mentioned by Baffin as the Three Islands, but obtained their present name from Captain Ross. They are resorted to by numerous birds of various kinds. The water between them and the shore is remarkably deep. They are in 74° 1' N. lat., and 37° 29' W. long.

The coast of the island of Cyprus, 34° 58' N. lat., and 33° 15' E. long., is a small town, which has declined from its former importance, and is unsafe, and only frequented in summer.

In the district of the Turks, the autumn harvest is usually reaped in July, and the potatoes are cultivated in the fields near the town.

The Native was brought up as an orphan, and has been educated at the Baffin Island School.

Captain Ross found no current towards the head of the bay, though it has generally been observed to set to the southward through the S. S.W. which forms the communication between Baffin's Bay and the Atlantic.

The coast of Mesopotamia, which is comprehended in the modern Pharsal of Bagdad, is now called Aljaizar, or the Island; Babylon and Chaldes are now in Arab. Asia, and correspond to Koandiz; and the present Khosan was then called Dinarak.

This extensive territory is traversed by the Euphrates and Tigris, which ultimately unite, and enter the Persian Gulf in a single stream. Within the Pashalik of Bagdad, the Tigris and Euphrates, which call the Euphrates, makes more extensive fords than the Tigris, but the course of the latter is more meandering than that of the Euphrates. The two rivers, within the limits of this territory, are most distant from each other between Rahaba Malek on the Euphrates, and the point where the Great Zab enters the Tigris, where the distance is about 180 miles; and the nearest approach is at Bagdad, where the distance of the Tigris from the Euphrates does not exceed thirty miles. The river Euphrates is navigable for about 900 leagues, or 430 miles, on the point where it receives the Khabour: the direct distance from thence to the junction of the rivers is about 300 miles, but by the winding course of the stream it is 400 miles. It is 500 miles from the Euphrates to the Euphrates, the distance of the Euphrates in the region of Aljaizar and Arab. Arabia. The Khabour is a small river originating in the union of several little streams; it pursues a southerly course until it joins the westward course of the Euphrates, and the united stream flows into the Persian Gulf.

The Euphrates receives a few small inconsiderable streams: on one side it has not the least, and on the other the region of Aljaizar and Arab. Arabia.

The Euphrates is a small river originating in the union of several little streams; it pursues a southerly course until it joins the westward course of the Euphrates, and the united stream flows into the Persian Gulf.
As wide as 35° 40' W. lat., and the natives say that it comes down from the neighbourhood of Sinjar. From Korna to the ruins of Ctesiphon the Tigris receives no river on its eastern bank; but between that point and Mosul a considerable number enter it, all of which rise in and flow through Koordistern. The principal of these are the Great and Little Zab rivers. The Little Zab rises in the mountains of Persian Koordistan, and pursues a north-westerly direction, until it is joined by a small stream which comes down from the north; it then takes a south-westerly direction, and, traversing the breadth of the Great Zab, it enters the Tigris about forty-five miles below Mosul, and imparts its own turbid character to the subsequent course of that river. Its breadth where it enters the Tigris does not exceed 60 feet, although it is said that in full flood it is sixty feet; its depth is at least 300 feet wide. The Little Zab is a narrow but deep river which rises in the nearer declivity of the Koordistan mountains, and pursues a nearly direct S.S.W. course of 150 miles to the Tigris, which it enters in lat. 35° 10' where its width is only 25 feet, although in its upper course, after it has received the Altum Su (golden water) at Altum Kupri (golden bridge), its breadth is nearly three times as great. It, however, discharges an immense body of water into the Tigris, which immediately after forms a fearful rapid and fall. The rapids are supposed to have given rise to the name of Aurlah, between Mosul and Bagdad. The Dulah is formed by the union of several small streams in the mountains behind Ruhmanc; and after it has received the Shourtan and Arwand from the Karmanshah district it becomes a considerable river and flows in the direction of the Dulah for about five miles above the Tukra Kesra at Ctesiphon. It is crossed by a bridge of boats a little above its mouth, and its breadth there is sixty yards; and at Bakoba, about forty miles above the mouth, it may, during high water, be forded on horseback, although it is then very rapid. The Shatt-al-Arab is the name given to the united stream of the Euphrates and Tigris. We should perhaps prefer to call the united stream by the name of one of those rivers, for it is such a labyrinth of channels, that it is extremely difficult to determine to which of the streams the distinction is most due; and it also agrees with their custom of calling a river by different names in different parts of its course. Our Humber, formed by the junction of the Ouse and Trent, is a parallel instance. After the junction of the Tigro-Euphrates the river continues the direction which the Tigris was before pursuing, and after a course of about 150 miles enters the Persian Gulf by a single embouchure. The Shatt-al-Arab is navigable, in mid-stream, for vessels of 500 tons burden; but towards the bank the channel is so much narrowed down that the Dutch, who use the river in their trade with the Persians, have named it the river of Ispahan. It is impeded by sandbanks, which renders its navigation sometimes difficult and perplexing. This noble river receives from Persia the Kerah, and communicates the canal of Hafir with the Karoon. The Kerah takes its rise in the southern part of the Persian Koordistan; and after collecting all the rivers of that province and the northern portion of Luristan, it flows with a very tortuous course through the plains of Khuzistan, passing near the ruins of Susa, and enters the Shatt-al-Arab about twenty miles below Korna. The length of its whole course may be estimated at four hundred miles, and its width at the mouth approximates to that of the Dulah. The Karoon rises on the western declivity of the Kuh-Zerfol, or yellow mountain, on the opposite side of which, but a hundred miles distant, the river of Ispahan has its source. It proceeds westward, but in passing among the mountains of Luristan it takes a S.S.W. direction, receiving in its passage through Khuzistan the river Ablat, which comes down from the north; after which it contains, in Kinneer's opinion, the remains of the main course of the Tigris. The Karoon contains the important city of Kermanshah, which is situated on one hand, and to the ruined towns of the Tigris on the other, remain to this day. Much of the marshy land now existing near the line of its course has been formed by the waters once conveyed by the river, now lost by their grit and debris, which, in the course of ages, have been carried far around by inundations and winds, that the numerous canals and aqueducts which once fertilized the country now contribute to increase its desolation. In briefly describing the surface of the Province of Bagdad, we shall consider separately the part to the east of the Tigris, that to the west of the Euphrates, and that between the two rivers. Of these three portions that to the east of the Tigris is the most fertile. In this part of his territory the Pasha of Bagdad divides the Persians into the country of Koordistan and the province of Khuzistan. As the country and people of Koordistan require a separate notice, it will suffice now to state that the portion of Koordistan nominally subject to the Turks is the largest and the part of the province of Khuzistan is altogether a hilly country. The stormy and lofty summits of the centre are exchanged, on proceeding towards the borders, for wooded and vine-clad hills, which include many of the most fertile plains and pastures of Persia. The Persians who live within the limits of the Turkish pashalic are not migratory. They are principally cultivators; and are generally governed by chiefs of their own choice. Their plains and valleys produce rice, wheat, barley, sesamum, tobacco, figs, melons, galls, nuts, and all sorts of fruits, and the Persians delight in them. The inhabitants of the other parts of the pashalic draw largely upon Koordistan for their agricultural produce. The people of Koordistan are all mountaineers, and the Persians, being of the opposite sect, are not liked by them so well as the Turks. Nevertheless the Persians have acquired great
Influence among the Kurds of the Turkish empire, by very
adroit interference in the quarrels of the chiefs among them-
selves. Suliman nek, Kerko and Erbil are the principal towns of Turkish Kurdistan: Suliman nek is the capital of a
pashalic of the same name, the territories of which are
more than twice as large as those of any other chief in the
province of the country; but the population of the town does not ex-
cede 12,000.

The limits of Khustan are so variously defined, that, in
order not to multiply distinctions, we will consider it simply
to extend to the mountains, to correspond to the
country between the mountains of Laristan on the east and the
 Tigres on the west, and between the Diushah on the north and the Persian Gulf on the south. The climate is desert dust, and the
sands of Lurd are similar in extent to those of the city of Bagdad. The province may be described as
actually a desert, although no soil could, in its natural state,
be more fertile; and this is true of extensive territories
which are called deserts in Western Asia, which only want
water, or the care of the cultivator, or both, to become lux-
uriantly productive. In Khustan, however, extensive mor-
ses have been formed on sites once inhabited, and the
sands of positive deserts have encroached upon its once fer-
tile plains. The spots that still remain are productive soil are
chiefly in the neighbourhood of the rivers, and either afford
good pastures or richly repay the labour of cultivation.
The cultivated districts are almost exclusively within the
territorial limits of Perisa, although in reality the southern
half of the province is of no uncommon extent, and the
most important of the Khustan, are occupied by different tribes of Arabs, chiefly
the Chahb and Beni-Lam. The Persians of the province of Shuster is peculiarly favoured by Nature, whose blessings, however,
are turned to very small account. The Chahb sheik describes
himself as an excellent agriculturist, and has made plantations of date-trees on the Shatt al Arab, on the Hafar, and on the Jerash river. The dates of Khustan attain very high perfection, and those produced in the Mendeli district are considered the very best in the Bagdad pashalic; whereas, are not much less than to say that they are the best in the world.
The portion of the pashalic of Bagdad which lies to the
west of the Euphrates may be dismissed very briefly.
Beyond the immediate vicinity of the river, the whole territory is a desert of the most positive character—sandy, flat, with-
out herbage, and without water. The banks of the river are,
however, very fertile in many parts, and the annual overflawings of the river in its lower course form the most
productive rice-grounds in the country.

Iraq Arabs, the most fertile of countries in the time of
Hercodoto, is now almost a complete desert. The soil may
in general be characterized as a sandy clay in a great depth
covered with the rubbish of ruined towns and canals. Of
these sufficient traces remain to afford the observer some
notion of the former extent of its cultivation. The cost and
labour which its establishment must have required, does not appear ever to have been equalled. The banks of the Euphrates and Shatt al-He -are not so per-
fetly desolate as those of the Tigres, but it is only near rivers and canals that we may expect any redeeming features
in the scene. On the Euphrates the territory of the Khezer
Arabs may be described as rich and beautiful. The
district is not indeed very large, but it contains rich pastures and
grain with numerous villages of an hospitable and
courtious tribe.

The banks of the rivers, more especially the Tigres, are
skirted to a very great extent with the tamarisk shrub, which in some places grows to the height of twenty or
twenty-five inches, and under which the camel attains the height of ten or twelve feet. These two form the
fire wood used at Bagdad and other places. The willow
and poplar also frequently appear as shrubs, but they are
not so common as the former. Tradition states that the
castor-oil plant once grew luxuriantly in the country, but
now there is only one specimen, which grows as a tree on the site
of ancient Ctesiphon. The acacia, or tamarisk, is tall and
abundant in some places; and it is peculiar that its
branches are, when young, as beautiful as by the Arabs,
although with us this lacetless tribe is deemed poisonous,
and unfit for the fodder of man. The carob plant (carum caro-
sum) sometimes attains the height of six or seven feet.
The carob thorn or locnor is seen occasionally, as well as the
blackberry bush. The caper shrub is rather common; the
Arabs express a sweet juice from its berries, and eat
the leaves as we do spinach. Among the other plants which frong
on the sandy soils of the Tigres are, asberis, not very common;
three Greek names are known: Chersiphon scrophulariaceum,
very abundant; colocynthis, the horizontal runners and
grapes of which overspread large tracts of ground behind
the bushes which skirt the rivers; a beautiful of meconopsis; hens; centaurea, very common; lath-
epipeum and heliotrope are seen occasionally; and
lycopersicum is a beautiful twinning species of solanum is very common, particularly the former. The marshes near the Tigres are
in some places thickly covered, in the spring, for the extent
of many miles, with the blossoms of the white floating
crook. A species of caryx and of alocarpus complete a list
prepared from actual although rather cursory observations.
Of the cultivated fruit trees, near the towns, the date is by
far the most important, and it occupies a large extent of
rural society. The population. Grapes, figs, pomegranates,
quinces, &c., are very good and abundant; but apples, pears,
pears, oranges, &c., are of inferior size and quality; and cher-
ries, gooseberries, strawberries, and currants are unknown. melons, cucumbers, and other
fruit are grown in abundance. In the spring, and
are rare, &c., are not rare. There are no turkeys,
and geese and ducks are not domesticated. The wild animals are gazelles, lions, jackals, ba
d, and hares. The lions are not numerous, and these beasts
chiefly among the semipalatine waters of the Tigres. The
jackals are much more abundant, and when they find an
opportunity enter the towns and villages during
the night. The domestic animals are horses, asses, mules,
bofaloes, single-humped camels, and dromedaries.
The dates and the river in which the beast is fed, is not an article of food, oxen are not reared for slaughte
but they are much employed in agricultural labours.

It is not to be understood that the direct authority of the
pashas of Bagdad extends over the whole of the territo-
rory of which they are in possession. The paramount
figure of the province is the Pasha of Bagdad, governor
and from the mountains of Lurdistan to the border of
Araba Proper. The sheikhs acknowledge a sort of de-
pendence upon the pashas, and a superiority proportioned
to the strength of his government. Their dependence is, how-
ever, precarious and uncertain; anything that happens in
favourable times it is as much as he can do to restrain them
from robbing the commerce of the city by their depredations
on the merchandise transported by water and by land. There
are, however, some of the Sokhmad chieftains, are bound to
choose the pashas in times of need as their leader; and if these contingencies were improperly furnished, the
forces of the pashals in time of war ought to consist of
about twenty thousand men, but the regular forces of the
pashas are only about two thousand men, a part of which
have some notions of discipline instilled by
European officers. This small body must in all cases form the
principal dependence of the pashas, who cannot with any
to desirable conditions, to exercise his Arabian and Koordish troops, unless the case be such as to make it manifestly their interest to bring their forces forward.

As the above article may be found in some points to differ from previous accounts, it is proper to state that it has been drawn from personal observation, and from unpublished papers and maps, for access to which the writer, to whose kind permission this is indebted, is indebted to the kindness of Lieutenant-Colonel Taylor, the British resident at Bagdad.

Bagdad, a large city of Asiatic Turkey, formerly the capital of a region, and now a province of its own name. It is in 33° 20' N. lat. and 44° 24' E. long., on the banks of the Tigris, about 200 miles, in a direct line, above the junction of that river with the Euphrates, and 300 miles above the point where the unison of the Persian Gulf.

The external appearance of the city does not disappoint the expectations which may have been formed from eastern history and romance. It stands in a forest of date-trees, which conceal the meaness of its buildings from the approaching stranger, but allow such glimpses of its splendid minarets and domes as prevent him from suspecting that the ancient glory of Bagdad has entirely departed.

Bagdad is divided into two parts by the Tigris. It was once a large, and probably covered with sand, but the court having been removed, in the latter part of the eleventh century, to the opposite side, the more respectable part of the population gradually followed, and the original site fell into decay of suburb, inhabited chiefly by the poor. This is the present agora of the whole city, which, on both sides of the river, is surrounded by a high and thick wall of brick and mud, which is flanked at regular distances with round embattled towers. Some of these were erected on both sides of the river a short time in circumference; but a large portion of the area which incloses is laid out in gardens and plantations of date trees. Under the wall there is a dry ditch of considerable depth, which, when occasion requires, can be filled from the river. We sought not to judge of Eastern fortifications by European rules. Successful travellers had spoken of those of Bagdad with contempt; but they have, in the recent troubles, been found adequate to the purposes for which they were intended.

The city of Bagdad miserably disappoints the expectations which the exterior view may have raised. It is built on no regular plan, and there are few towns, even in Asia, the streets of which are so narrow and tortuous. They are of the same width as the building occupied, except of deposits of rubbish, and rendered disgusting by dead carcasses and all manner of filth, which would endanger the public health, were not the most noxious part speedily removed by the numbers of unowned and half-savage dogs.

In general, the houses do not, as in Western Turkey, present any windows to the street. Instead of a regular front with windows, there are high walls pierced by low and mean-looking doors; but in some of the better streets, the Turkish Arook, or large projecting window, or else the Persian lattice, occasionally occurs. The houses are built of burnt bricks, which are old, much unlike those employed in London, either in shape or colour: but new bricks are generally employed in public buildings, as old ones can be easily burned by turning up the ground in any direction and speedily carried away.

The city is, to appearance, of very great solidity and thickness; but they are easily faced with brick, the space between being filled up with earth and rubbish. The houses are much higher than those in other parts of the province, and the walls almost onefourth of a mile thick. The lumber is taken from the house as high as one of two stories in this country. The splendid and often elegant appearance of these rooms presents a striking contrast to the filthy and barbarous aspect of the streets. The rooms have often vaulted ceilings, which are decorated with chequered work and mouldings in very good taste. They are ample provided with windows of coloured glass, and the walls are so profusely ornamented with gilding, painting, and inlaid mirrors, as to make a stronger impression on the stranger than might perhaps, be found to confirm. The buildings of a house in Bagdad commonly occupy two or three sides of the interior of a square court. In this court, which is paved with squared stones, some of which are very pretty, and there is frequently a fountain in the centre. Access to the first floor is afforded by external stairs of stone, which conduct to the verandah, into which all the doors of that floor open. This verandah, which is supported by the walls of the ground floor, is generally roofed wide, and the floor itself is boarded, and its boarded covering and carved screens are supported by pillars of wood, the capitals of which are often very curious.

In Bagdad, as in all other Turkish cities, the only public buildings of note are the mosques, the khans or caravanserais, and the bazaars. There are said to be about 100 mosques in the town; but not more than thirty are distinguished, in a general view of the city, by domes and minarets.

The domes are remarkable not less for their unusual height than for their proportions. Many of the streets of these cities are of slatted, green, blue, black and white, disposed with considerable taste. The minarets, which are more massive in their structure than those of Constantinople, and without the external termination by which the latter exhibit, are also glassed, but in better taste than the domes, being of a pure brown, with a different colour to mark the lines formed by the junction of the bricks. These lofty minarets and beautifully-shaped domes reflect the rays of the sun with very brilliant effect. The windows of these mosques are mounted by the nests of storks, the diameter of which nearly corresponds with that of the structure.

The bazaars of Bagdad are numerous and extensive, but are in appearance much inferior to those of some other Turkish cities. Many of these streets of shops, which compose them are long, tolerably wide and straight, and vaulted, in the usual manner, with brickwork; many others are narrow, and covered only with a roof of straw, dried leaves, or green or white mats, and thus laid across. The bazaars are, in ordinary times, well supplied with oriental produce and manufactures. The baths, as in all other oriental towns, are numerous. The khans, or caravanserais, which amount to about thirty, do not demand particular notice; they are inferior to those of some other Turkish towns, and do not admit of the least comparison with those of Persia.

The communication between the two parts of the city divided by the Tigris is by means of a bridge of thirty pons. Another mode of communication is by the conveyance of large round baskets, coated with bitumen, which are the wherries of the Tigris, Euphrates, and Dalah. The river is about 750 feet wide, in full stream, at Bagdad, and the waters are very turbid, although perfectly clear at Mosul, and until the Great Zab enters the Tigris.

The existing antiquities of Bagdad are very few; yet these few far exceed any of the modern structures in solidity and elegance. There are three or four mosques, the oldest of which was built by Mansur's successor in the year 785, and has now only remaining a minaret which is said to be the highest in the city, near the centre of which it stands. It commands a view of the town and surrounding country, and on a clear day the Tusk Kesra at Ctesiphon can be distinctly perceived from it.

Of the mosques of more modern date, that of Abdul Kadder, although rivalled by two or three others, is the largest and finest. Underneath it a lofty and long range of cells is appropriated, and the tombs of a famous tutor of the above name, who lived at the latter end of the twelfth century, and who is considered the patron saint of Bagdad. This mosque is well supplied with water by a cistern, which is no less than 400 feet long, and has number of cells for the accommodation of three hundred devotees, who are supported from the funds of the establishment. Bagdad was at one time the Athens of Mohammedan Asia, and the seat of, perhaps, more learning and science in any other part of the world. The college, founded in the year 1233 by the Caliph Moostansir Bilah, acquired great fame in the East; it still exists, as a building, near the
The climate of Baghdad is salubrious, but intensely hot in summer. From our own carefully registered observations, during a year in which the temperature was considered by the natives to have been at a fair average, the summer heat seems to be rather exaggerated by some travellers. It is still, however, much greater than the geographical position of the place would lead a person to expect; and this is easily accounted for by its situation in a vast naked plain on the borders of a desert, as well as by the prevalence, during part of the summer, of the hot wind, the samir. This wind is popularly considered to prevail during forty days, but its actual duration is often twice as long; during which period it commonly rises about noon, or somewhat earlier, and continues until three or four o'clock in the afternoon. It is felt like a gentle breeze which may pass over a man without being noticed. At Baghdad it does not appear to produce any bad effect, either upon the health or lives of the natives, or even of Europeans. Its heat, nevertheless, and that of the summer months in general, is so oppressive as to render the long and frequent intervention of storms, or showers, or cloudy days, that spot which at that season scarcely be habitable but for two compensating circumstances: one of these is the breezy coolness of the nights, to enjoy which the people sleep upon the flat roofs of their houses from the middle of May to the latter part of September; the other is provided by the people themselves, who have under their houses spacious vaulted cellars, called erdebees, in which persons whose circumstances or occupations allow it are almost entirely by day, and but little less by night, concealed. These are airy, glareless abodes; the light is very sparingly admitted; but the apartments are well ventilated by excellent wind-chimneys, which appear on the house-tops like massive towers strengthening and securing the entrance. On these there are also large leafy trees which frequent the city in the summer build their vast cylindrical nests. It is remarkable, that the people are in the habit of complaining more when the summer temperature does not attain its usual height than when it does. For 1835, say that in the day had reserved as usually warm, sickness abounds in the city; and medical men, to whom this has been mentioned, are of opinion, that having been all their lives accustomed to the discharge of an open Ax in the summer season of perspiration in summer, any tolerable diminution of the air may operate injuriously on the health of the people.

In the month of January, the freezing of the waters bring to dry upon the river, and the formation of a thin surface of ice upon water left standing in jugs in the open air, are regarded as indications of a surprising degree of cold. The people, nevertheless, suffer more from the cold of winter as it is felt in the room, than from the weather; and the houses and palaces are exclusively constructed for summer use; and from the temperature of the same rooms being very little heightened by the braziers or earthen pans of charcoal which, in the absence of the electric fluid so commonly employed by our observers commenced in the middle of April, 1830, and concluded early in March, 1831, the lowest temperature of the former month, and the highest of the latter, could not be obtained, and are not stated. The time of observation was changed with the length of the days, from half past six to eight o'clock in the morning, and from two to three in the afternoon. The first observation was in an ordinary inhabited room, the second was in the verandah, and the third on the house-top. Summers considerably warmer than this of which we speak are not unusual; but a colder winter is exceedingly rare.

At three in the afternoon, during the warmest months, it was generally found that the temperature in the inhabited cellars was two or three degrees less than it had been in the ordinary rooms at eight o'clock in the morning of the same day.

A drop of rain rarely falls at Bagdad later than the beginning of May, or earlier than towards the end of September. After the end of September, the rains are express for a bed, but the winter is, on the whole, dry; and although we do not possess a minute register of the weather, we think it may safely state that the number of days on which any rain falls, in the whole year, does not exceed twenty-five. Nevertheless, the autumnal rains at Bagdad, and other parts of the country, the subject of the present enquiry, the Tigris, which sinks greatly during the summer months, rises like a river channel and becomes a powerful and majestic stream. The occurs again in the spring when the snows disintegrate upon the distant mountains. The low lands on both sides of the river are inundated; and when the fall of snow has been very great in the preceding winter, the country between and beyond the two rivers, in the lower part of their course, assumes the appearance of a vast lake, in which the elevated grounds look like islands, and the towns and villages are inundated. Perhaps the history of this city does not offer an instance of an inundation so calamitous as that of the year 1831, when the flood was so extensive and of such long duration, that the waters flooded the city, and so many buildings were swept away by the first inundation, and re-emerged, and fell from the long continuance of the water in the cellars and the streets, that fully one-half of the town was ruined, with little prospect that it will speedily recover. There are many instances of this kind. During the destructive plague which visited Bagdad for forty years was at the same time raging, the continued operation of these calamities reduced the population from about 75,000 to 20,000 or 25,000. Our latest advices do not inform us what any subsequent progress has been made in re-building the town or restoring its population.
The plague is observed to visit Bagdad at intervals of ten years; but the amount of destruction which it generally effects is exceedingly light compared with that to which we have just adverted. There is only one other malady to which the Bagdadeses are much exposed than we need particularize; a kind of cutaneous disease which some call the 'Aleppo malady,' and others the 'Aleppo button'; but although Aleppo may be its native city, it is not so prevalent there as at Bagdad. It is first a tumour, and then a wide, deep, and distressing sore, for the cure of which no medicines have hitherto been discovered; in six or eight months, it heels of itself. It leaves an ugly and indelible scar, and as one seldom comes alone, and children are generally attacked in the face, the countenance suffers so greatly in it that many people may, wisely judging, consider the ugliest people in Turkey. Adults are generally attacked in the limbs. It is said that those who have once suffered this disorder are exempt from future attacks.

The population of Bagdad is exceedingly mixed; and the very distinctive dress of each people clearly indicates the component parts of the population. The Osmanli Turks scarcely ever wear at Bagdad the embroidered jacket, capsom, trousers, and close cap so common in the neighboring towns. They are usually dressed in white robes of cotton, muslin, or silk, with wide shapeless cloaks of broadcloth or alabsson; while the red cap, with its blue tassel, instead of fitting close to the head, hangs loosely behind the ear, and is frequently worn not in one only, but in a cluster of many. The same is true of the women of the race, whose head is generally covered with a gold circlet with gold. Christians dress much in the same manner. They are not, as in many other towns, restricted from light colors in their dress, or from wearing yellow slippers; but they are expected to abstain altogether from green colors and from wearing black. The Jewish women, in general, are distinguished by having their red caps fitting close to the head, with only a yellow handkerchief tied around them. The religious distinction is made in the same manner in other Turkish towns, it is worth while to mention this. The Arab dress consists of a wide, loose, cylindrical cloak, which some call a cutaneous disease, which some call the 'Aleppo malady,' and others the 'Aleppo button'; but although Aleppo may be its native city, it is not so prevalent there as at Bagdad. It is first a tumour, and then a wide, deep, and distressing sore, for the cure of which no medicines have hitherto been discovered; in six or eight months, it heels of itself. It leaves an ugly and indelible scar, and as one seldom comes alone, and children are generally attacked in the face, the countenance suffers so greatly in it that many people may, wisely judging, consider the ugliest people in Turkey. Adults are generally attacked in the limbs. It is said that those who have once suffered this disorder are exempt from future attacks.

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divans or sofas. The Arabian 'abba' or cloak, which we have already mentioned, is rather extensively manufactured at Bagdad: some of the qualities are very fine, and the use of the article is not confined to the rich and noble, to the exclusion of the poor.

If we add to this some stuffs of silk and cotton, the list of the principal manufactures of the place is completed.

Bagdad was founded by the Caliph Abas Jalifer al Ma'mur in the year 763 a.d., whether on the site of a former city or not, is unknown; but it is agreed that the materials were drawn from Cesthiphon and Selucia. The town was much improved by Harun al Rashid, who is said to have built, besides the temple built on the Tigris bank of the Tigris, connecting the two parts by a bridge of boats. It remained a most flourishing metropolitan city until the year 1259, when the town was taken by storm by Halakud, a grandson of Choseng Khan, and the dynasty of the caliphs was extinguished. It was afterwards rebuilt, in the year 1353, when it was taken by Timur Beg (Tsermanie), on whose approach the Sultan Ahmed abandoned the place and took refuge in the territories of the Greek emperor. It was soon, however, retaken by Timur, and for several subsequent years it was alternately in his possession, in that of the deposed Sultan, or of the Turkoman Kasa Yusef. The last of these princes ultimately remained in undisturbed possession of the place, and it continued with his descendants as the capital of Persia, until it was taken by the Persian, Bonas, whose family reigned thirty-nine years in Bagdad, when Shah Ismail, the founder of the Sulfide dynasty in Persia, made himself master of it. From that time to the present year it has retained its position as an object of interest to the Persians and the Turks. It was retaken by the Turkish sultan, Solymen the Magnificent; and it was regained by Shah Abbas the Great of Persia: but the Persians were ultimately obliged to surrender the place to the Sultan Murad III., by whom it was besieged with an army of 300,000 men, in the year 1525 a.d. It has since been nominally subject to the Porte; but the Pashas have, for the last hundred years, been nearly independent of the Sultan, and particularly since the government has been in the hands of the Georgie Mamlouks, brought, when young, as slaves to Bagdad, and instructed in the Moslem faith. In the year 1821 the present sultan aimed at their power a blow which might not, in ordinary circumstances, have been formidable; but which was rendered effective by the immediately preceding desolation of the city by plague and inundation. Nevertheless, the town held out for three months, and then it was rather the want and misery within its walls than the force of the besiegers which compelled a surrender. Daud Pasha was seized, with his wife, his children, and a scarcely one of the number remains alive. The conqueror, Ali Pasha, formerly of Aleppo, brought to Bagdad a very high reputation for talent and energy of character; but he was, with all his position, and from his ignorance of the character of the people with whom he had to deal, he has become highly unpopular, and his authority and personal safety have already been frequently endangered by revolts either of the people within the city or of the Arabs around it.

Bagnerme. [See Baghari.]

Baglivi, George, a distinguished physician, was born in 1648, but at what place is not ascertained; Haller assigns Naples as his birth-place; but Commentarius asserts that it was Lecce, in the kingdom of Naples. Having early manifested an inclination to the study of medicine, he began his studies at the University of Naples, and continued them at Padua, where he took his degree of Doctor of Medicine. He endeavoured to increase his knowledge by visiting almost all the hospitals of Italy, Dalmatia, &c.; after which he settled at Rome. His merits and acquirements having been made known to Pope Clement XI., he was, though yet very young, by his accredited professor of surgery, admitted to the college of the Romans. He became a member of the Roman Archbisp'suim.

In the address prefixed to his Specimen Quatuor Liberorum de Phlebae Morbus he states that after the perusal of what had been written on the subject of the morbus de phlebae by Hippocrates, he learned almost by heart; and in his practice endeavoured to limit his attention to a careful observation of the phenomena of disease, and to find his rules of treatment upon sound principles, disdaining the theories which then held the medical profession in a state of consternation. When we consider the decided manner in which he treated the morbus de phlebae, it was his independence of mind, that, notwithstanding his respect for Hippocrates, he differed from him and all previous writers in discarding the doctrines of the humoral pathology, or the theory which ascribed all disease to an altered state of the fluids of the body. He, on the other hand, not only from his own observation and reflection, but from reading the mode of treating diseases in India and other parts of the East, the success of which was entirely different from that of the morbus de phlebae, maintained that the solids were, in most cases, first affected, and the fluids, when affected at all, only secondarily.

These opinions he published in 1694, and strengthened them by further observations and experience, which he made in successive editions of his work, of which an American edition appeared before 1704.

It must be allowed that preparations had been made for an overthrow of the ancient doctrine by the publications of various observers and writers in different countries, particularly Willis's Cerebri Anatomic, 1672, and Pathologia Cerebri et Nerorum Generis, 1667, in England, and Vossius's Neurographia Universalis, 1684, in France; on which works the share which the nervous system had in the morbus de phlebae was first thrown out by Glisson, who translated them into Latin, 1684, with all, by Glisson's Tractatus de Vnstrumentis et Instrumentis, 1684. It was in this last work that the hypothesis of muscular irritability was originally brought forward as a speculative theory, for the explanation of the phenomena of the morbus de phlebae, and from which has deduced its peculiar powers of action and reaction. To these succeeded Baglivi, with more extended views, and more accuracy in his principles. These are detailed chiefly in his Specimen Quatuor Liberorum de Phlebae Morbus. Valuable and just as many observations and conclusions in this tractate, he has been greatly aided in ascertaining the contractions and relaxations of the muscular fibers to certain imaginary contractions and dilatations of the arteries of the dura mater, which term he introduced, l. i. cap. v.

His opinion, that the fluids must have become secondarily an consequence of a previous affection of the solids, has been gradually gaining ground since the time it was first propounded. It received important additions from Hoffmann, an German (see Hoffmann's Medicina Rationale Systematis, vol. iii. a. i. chap. iv. and Cullen in England (Fires of the Practice of Physic, Prencie, et Param). Still the most sound pathologists of the present time admit that in a few cases, perhaps, the fluids are primarily affected (see Andrade's Practice of Physic, vol. i. chap. ii.) but the opposite doctrine may be considered as the current hypothesis of the present day, and Baglivi the father of the modern system of solidism.

Bagnerme died in Naples, perhaps, in 1766, at the early age of thirty-eight, worn out by his arduous exertions. The first complete edition of his works is that of Lyon, 1704, entitled Opera Omnia Medicina Pratico et Anatomica, 4to, and reprinted at the same place, 1710, 1715, 1745; and also at Paris, 1711. All these, and his other works, have been frequently translated into English, French, and German. Baglivi was a Fellow of the Royal Society of London. His works have never been printed in this country, and copies of them are rare.

Baghras, a town in the kingdom of Naples, in the province of Calabria Ultra III., situated on the coast of the gulf of Geya, and at the foot of a lower ridge of the Apennines which here runs close to the shore. Several streams descend from the mountains to the sea at and about this place. Baghras has considerable buildings close to the beach: its population is about seven hundred. The women of Baghras have the reputation of being remarkably handsome. Baghras is 8 miles N.E. of Sirace, eight miles S.W. of the town of Sirace, and eight and a half miles S. of Cape Pelorus in the island of Sirace.

Bagneres-De Bigorre, a town in the departement of Hautes-Pyrenees (High Pyrenees), 463 miles S.W. of Paris, through Perpignan and Toulouse, which is 143 miles through Orleans, Limoges, Cahors, Montauban, and Auch. 43° 30' N., lat. 8° 20' long. from Greenwich.

This town, situated near the beginning of the valley of Cerdagne, at the head of the Gave de Pau, is on the lesser of the smaller valleys or vale called la Vigeois, and on the left bank of the Pyrenean. It is about 10 miles from our own Bath or Cheltenham, the resort of these
seek for health or pleasure. It owes its attractions to the beauty of its situation and the celebrity of its medicinal waters.

The road from Tarbes, which is between Auch (where the two routes from Paris, above described, unite) and Bagneres, is delightful. On each side there are large woods, with fruit trees to which the vines are trained; the mellet grows among the trees; and neat cottages, built of the pebbles brought down by the Adour, and sometimes covered with thatch, often with slate, give additional beauty to the landscape. A little south of Bagneres, in the village of Bagnoles, is a group of buildings, known as the baths du Salut, or in the neighbourhood of the island, and about a mile from the town white marble, which bears a fine polish, has been discovered.

There is a remarkable cavern, called the Grotto of Bedas, 6 miles north-west of Bagneres-de-Luchon, at the foot of which Bédas (Encyclopédie Méthodique; Malte Brun; Mullin, L'agriculture dans le Midi de la France.)

BAGNÉRES-DE-LUCHON is a bathing town in the department of Haute-Garonne (Upper Garonne), and is distant from Paris 513 miles S. by W. through Orleans, Caen, and Toulouse, from which last town it is distant 75 miles S.S.W. 42° 47' N. lat., 0° 34' E. long. from Green-which.

Bagneres is at the junction of the fertile valleys of Luchon and Larboust, from the former of which it gets the appendage to its name by which it is distinguished from the Bagneres de Bigorre. For a long time it was recommended by the cheapness of provisions and lodging, consequent upon its being on a less frequented road to Lourdes. Lately, Bagneres, as mentioned above, is used principally for the cure of wounds. The waters of all the baths differ only in temperature: they are clear, and without any peculiar taste, smell, or colour. They are frequented twice in the year, in spring and autumn.

The streets of Bagneres are twenty-two in number, well laid out, watered by streams from the Adour, and of sufficient breadth. The neatness of the town is attested by the small number of blown-out windows, which testifies that none of the kings had caused it to be purchased in Holland, to serve as a model to his subjects in the southern provinces.

The pavement is composed of round pebbles from the Adour, arranged in the form of a mosaic pavement, asfatting to the feet as pleasing to the eye. There are delightful walks in the neighbourhood, in the valley of Campan and along the banks of the Adour. There are horse-races yearly at the village of Pouze, distant two or three miles to the N.E. on the road to Tarbes; and the town contains plenty of amusements of various kinds for relaxation and pleasure, such as a library, and reading-rooms, and the establishment of Frascati, where are accommodations for dancing, reading, bathing, gaming, theatrical performances, concerts, and balls.

The church of St. Vincent contains some pictures and figures in wood executed here. There is a high school and an hospital for the poor.

The celebrity of Bagneres is not of very modern date. Montgarg, who wrote in the latter part of the sixteenth century, speaks of it as the place where invalids might best find a delightful situation, with the advantage of good lodgings, provisions, and company. In the Dictionnaire de l'Academie, the population is stated at 4000; in the census of 1 January, 1832, the number of inhabitants was given at 7596 for the commune, of which 5633 were in the town. The visitors and tourists are not considered as part of the population, and, of course, of 10,000 yearly, of whom 6000 can be accommodated at one time.

Some manufactures of woollen stuffs of different kinds and of good qualities, serges, crapes, and other fabrics, are carried on here; some paper is also made.

The inhabitants of the Romans, by whom the inhabitants were called Aquenses, whence the name of Aquæs Vitæ is supposed to have been given to the town. It has been thought by some to have been the Aquæ Comites of the Romans; but D'Avrillé is not of this opinion. The name of a Roman colony of Aquæ is known. Bagneres is now the seat of a sub-prefecture, whose arrondissement comprehends 770 square miles, with a population, in 1837, of 89,534.

The mountains round Bagneres are composed of a species of ordinary marble or grey fine-grained limestone, of which the houses are built. The rocks about the baths du Salut, which, as mentioned above, are a little distant from the town, are calcareous and schistose; calcareous pyrites may be found dis-
open, at its lower extremity, into the valley of the Rhone, in the neighborhood of the town of Martigny. From Martigny this valley runs for about five miles nearly due south to St. Brander, where it turns to the east, and continues in that direction to the Getaz glacier; farther upwards it declines one or two points to the south. The whole length of this valley cannot be less than thirty miles, and its breadth, in the lower part, is often more than two miles.

A part of the latter district is covered by the extensive ice-masses of the Chermontane glacier, in which the river Dranse rises. This valley is remarkable for its rapid ascent. Martigny is only 1663 feet above sea, but St. Brander is about 5000 feet higher. The ascent of the Dranse continues to rise with equal rapidity, but farther upwards the ascent is much more gentle. The differences of elevation, which are the consequence of this rapid ascent, account for the differences of climate and products in the different districts. The climate of Martigny approaches that of Italy, and is favorable to the growth of all kinds of fruits, especially of chestnuts and vines; the wine made here is much prized, particularly that of Coquempin and de Sa Marque. At Bagnes, grapes are raised with difficulty; the upper valley is too cold for agricultural purposes, and only adapted for rearing cattle; the cheese made here is in great demand in the neighboring countries. The inhabitants of this valley, who, with the exception of Martigny, make almost nothing but cheese, have a good reputation in the French markets for their industry. The mountains which enclose the valley contain many kinds of minerals, and it is said that in the fifteenth century silver was worked here.

This valley has, in our times, become better known owing to the construction of the railway, and it is likewise of life and property, but threw some light on the formation of new glaciers, and the consequences to be dreaded from such an operation of nature. The Getaz glacier occupies the upper part of the valley, at Bagnes, which terminates near the foot of the beautiful Mount Vidal, and on the left side of the river, Dranse, in a nearly perpendicular rock, about five hundred feet high. On the opposite side of the river stands another high mountain called Pierreze; the gorge formed by both mountains may be about two miles and a half in length. In 1811 and 1812, large avalanches falling down from the glacier on the steep side of the Montvousois were of such a size that the summer heat did not dissolve them, and consequently a glacier was formed in the gorge itself. This glacier increased every year, and in 1817 it occupied the bed of the rivulet, the upper valley is too cold for agricultural purposes, and only adapted for rearing cattle; the cheese made here is in great demand in the neighboring countries. The inhabitants of this valley, who, with the exception of Martigny, make almost nothing but cheese, have a good reputation in the French markets for their industry. The mountains which enclose the valley contain many kinds of minerals, and it is said that in the fifteenth century silver was worked here.

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that the water is conveyed out of the town by a canal, and serves for watering the neighbouring lands.

There are several small places in France of this name. At Bagnols, not far from Dijon, in the department of Côte, there is a notorious place supposed to be haunted by wraiths. There are said to be waterfalls and caves nearby, and the locals claim to have seen ghostly figures floating in the water. The area is popular for its natural beauty and historical significance.

BAGNOLE, a town in the department of the Loire, about five miles east of Mende, the capital; it excites the appetite and promotes perspiration. Bagnols-les-Bains is in the département of Lozère and is known for its hot springs.

BAGNORES, a town in the Pape State, and a bishop's see, with a population of 1700 inhabitants. It is situated on the edge of calcareous hills which divide the lake of Biel from the resting place of the Tiber. The ancient Ballium Regioni was once a milestone, and at a spot now called Civita; it was placed on the pinnacle of a limestone rock, joined to the surrounding country by a narrow neck of land. This approach had been gradually worn out by the rains, and one part of it having entirely given way, the rock is now isolated.

In consequence of this, the inhabitants removed about a century since to the new town. At Civita there are, lying in front of the old cathedral, several marble pillars, which have been carried to Paris in the same manner as the one bronzes, with a beautiful basso-relievo, representing two ancient basins with their horses, and a number of figures crowding after them, the whole in an excellent state of preservation, has been transferred to the bishop's palace at Bagnore. (In Journal of Education, No. XIV.) Bagnores is eight miles N.E. of Monterrasino, and six miles S. of Orvieto, and three miles distant from the high road from Rome to Florence. The old Bagnores, or Ballium Regium, was the birthplace of a distinguished family of the thirteenth century and a cardinal who exercised much influence on church affairs in his time.

BAGOUS, in entomology, a genus of the order Coleoptera, and family Carabidae. The little beetles composing this genus are covered with a multicolour and feed upon aquatic plants, probably both in the larva and imago state.

There are six or eight species found in England.

BAGPIPE, a musical instrument of the pneumatic kind, still well known, though fast falling into disuse, and which probably will, in a few years, be banished from all parts of our isle, except the most remote and least advanced in taste. It is described by Grassineau as consisting of a leather bag, inflated by a port-vent fixed in it, which has a valve under it; the pipes, the flue, and second called the great and little drone, each giving but one note, the third, a kind of oboe having eight ventages, or holes, on which the tone is played by the fingers. The wind is communicated to the pipes by compressing the bag under the arm, the man holding fire, is ready to support the bag. The compass of this instrument is three octaves.

The bagpipe, or something nearly similar to it, was in use among the antients. Bianchius gives a figure of it under the name of ibis atrimaria, though this is not precisely the same as the modern instrument. Lucullus, in his Memorials (1516), has a wood-cut of it, whence it appears that the bagpipe in his time was in all respects the same as ours. Indeed, it is mentioned, though not described, by Chaucer, who says of his miller—

'A bagpipe wele make it oure bawme; and more:

and this, we are told in the same prologue, was the music to which the Canterbury pilgrims performed their journey.

BAHAMA, or BAHAMA, is a chain of low islands stretching in a north-western direction from the north side of St. Domingo to the coast of East Florida. It is composed of innumerable rocks, islets (called keys), and islands, of which not more than twelve or fourteen are inhabited; these are New Providence, Paradise Island, Eleuthera, Exuma, Harbour Island, Crooked Island, Long Island, St. Salva-

dor, Caycoso, Watering's Island, Rum Key, and Nassau. Some of the largest islands, as Great Bahama and Longue, now called Abaco, with many smaller ones, remain without inhabitants. St. Salvador, called by the Indians Guanabana, was the principal settlement of the Spanish, and fallen in with by Columbus on his first voyage in 1492.

When the Bahamas were first discovered, they were peopled by a numerous, mild, and happy race of Indians; but, as the islands produced no gold, the Spaniards did not see any advantage in them. With the improvement of the commerce over to Hispaniola to work the mines, or act as divers in the pearl-fisheries of Cumanas, and thus, in about fourteen years, the whole race became entirely extinct. Some stone huts and domestic utensils of the aborigines are occasionally found in the island.

The Bahamas remained uninhabited till the year 1829, when New Providence was settled by the English, who held it till 1841, and were then expelled by the Spaniards, who destroyed the colony, but made no attempt to settle there themselves. It was again colonized by the English in 1866, and continued in their hands till 1703, when a combined force of French and Spaniards destroyed Nassau, and obliged the inhabitants to seek refuge by flight. Some, however, who had been wearied by their recent sufferings, and the place became a rendezvous for pirates, who became so notorious, and committed such depredations in the adjacent seas, that government determined to suppress them, and re-settle the colony. This was done in 1717, and new settlements were formed on some of the other islands; Nassau itself (the town of New Providence) was fortified in 1740.

The Bahamas now enjoyed tranquility till the commencement of the American revolutionary war, when New Providence was attacked by the British, and held by them for a short time; but they abandoned it very shortly afterwards. In 1781 all the Bahamas were reduced by the Spaniards, but, by the treaty of peace in 1783, they were again restored to the British crown. At the close of the American war, many of the irregulars that had been the remnant of the British forces in the colonies, and since that period the number of the people and the cultivation of the land have progressively increased.

To encourage commerce, Nassau was declared a free port in 1792, this town is a centre of trade for the anchorage other regular ports of entry—Exuma, Caycoso, and Turk's Island.

Nassau is also the seat of government, which is similar to that of most other British West India islands; there is a governor, who is assisted by the House of Assembly, or representatives of the people. The governor is the principal executive authority, is commander-in-chief of the militia, and has the power of summoning and dissolving the legislative body, or of putting a negative on its proceedings. The House of Assembly consists of two houses, one elected by the people, and the other appointed by the crown.

The House of Assembly (similar to the Commons) consists of the representatives of the several islands, in number between twenty and thirty: the necessary qualification for being a member is to pay, in person, a yearly tax of 200 acres of cultivated land. The electors are all free white persons, above twenty-one years of age, who have resided twelve months in the colony. Besides the courts of chancery and assizes, there is a supreme court, an admiralty and a vice-admiralty court.

A chamber of commerce has also been established at Nassau, which serves as a court of arbitration for salvage property saved by vessels of the islands; every party giving bond to abide by the decision of the arbitrators.

The principal islands are situated on those remarkable flats called the Bahama Banks, of which the Great Bank (lying at the western extremity of the archipelago) occupies an extent of 300 miles in length N.W. and S.E., and in width from ten to forty miles. The depth of water is thirty feet, but the patches of coral rock and dry sand are innumerable. These banks rise almost perpendicularly from an unfathomable depth of water, and are formed of coral, with an accumulation of shells and calcareous sand. The character of the islands is generally low, and covered with a light sandy soil, their figure and surface throughout being nearly the same. At the greatest depth yet reached by digging, nothing has been found but calcareous rock, with an intermixture of shells. These islands are not situated on the bank have a reef of rocks extending a short distance from the shore, forming the boundary

3 N 2
BAHAR, a very extensive province of Hindostan, considered to be the second in importance among the British possessions in India, is situated between 23° and 27° N lat. It is computed to contain about 50,000 square miles. Bahar is bounded on the north by Nepal, on the south by Gudwan, and on the west by Allahabad, Oudes, and Gudwana.

Bahar, together with Bengal, was added to the Mahomedan dominions in the beginning of the thirteenth century by Cuitting, whose original name was the slave, became the favourite general, and afterwards the adopted son and successor, of Mohammed, the founder of the Afghan or Pagan dynasty in India. In 1535 Bahar was conquered by Baber, the grandson of the great king, and thus became the dynasty of the Moguls as Hindustan, which continued until the establishment of the British empire. This extensive district, together with the provinces of Bengal and Orissa, came into possession of the British East India Company on the 1st of August 1743, and were conveyed by firman from the Mogul Shah Allum. The imperial grant thus acquired is distinguished as the annals of the Company as the Dewanny, or collection and receipt of the revenues in Bengal, Bahar, and Orissa, and its acquisition laid the foundation of the political power of the English in India. It is not to be imagined that so vast an extent of territory was ceded voluntarily on the part of the Mogul. That sovereign had been previously brought so far within the bowels of Europe that he was forced to agree to any conditions, however arbitrary, that the British might impose. In return for the princely dominions thus ceded, the Mogul was assured the annual payment of twenty-six lacks of rupees, equal to about 300,000l., starting money, as a quittance.

By this change of masters, however brought about, the inhabitants of Bahar have undoubtedly been considerable gainers. They have acquired the quiet and permanent possession of their farms, and have enjoyed an exemption from the ravages of war. A large number of inhabitant has very greatly increased, and the cultivation of the soil has been proportionally extended. The population of the province, as taken from the returns of the magistrate and collectors of the various districts, at the beginning of the present century, amounted to 16,700,000 souls.

Bahar may be pronounced one of the most fertile, best cultivated, and most populous districts in Hindustan. It has the advantage of a temperate climate, well watered, as provided with easy internal communications, and has the further advantage of being a thoroughfare for the commerce of Bengal with the upper provinces.

The province may be considered as divided into three divisions. The total extent of these divisions comprises almost entirely of a level plain containing about 28,000 square miles of fertile and highly cultivated land. These two divisions are separated by the Ganges, which runs with a current to the west, 120 miles, and thence converges to the south.

The plan on the north of the Ganges depends on the forests of Nepal and Burmah, and is separated from the south bank of the Ganges, and is separated from Allahabad on the west by the river Ganges, while the boundaries are distinguished by a line of hills, which converges to the south, while the Ganges is separated from the north by Gudwana, on the south by Gudwana and Oudes, on the west by Bengal, and on the north by the alluvial tract of the province. This alluvial tract is subdivided into three barias named Palamana, Ramghur, and Chitragpore (Little Nagpore). The whole division sometimes goes by the name of Nagpore.

The English packet on her voyage from Jamaica always calls at Crooked Island to land and receive the Bahama mails.

The rise and fall of tide varies from three to six feet in the different harbours, and the time of high water, full and change, is 7th, 11th, and 23rd, from 30.00 to 30.30. The Gulf Stream is at its maximum between the Bahamas and the Florida shore, running at the rate of five to six miles an hour.

The whole group is contained between the parallels of 29° and 31° 30' N., and the meridians of 68° 45' and 77° 30' W. of Greenwich.

(Bryan Edwards's Hist. of West Indies; Columbian Navigator.)
this cold season the thermometer at sunrise frequently stands as low as 35' to 40' of Fahrenheit's scale, and in the afternoon rises to 70'.

The province of Bahar is divided into six zillah or districts, viz.: Boghipore, Bahar, Tirhoot, Sarun (the saylam); which comprehends British or Chumpanur, formerly a separate district; Shahabad (the royal residence), and Ramgarh (the house of Rama).

The principal rivers of Bahar are the Ganges, the Son, the Gandaki, the Caramanass, the Dhummodah, and the Dwarika. The rivers are subject to freshets from time to time, but the principal ones are the Dwarika, the Gandaki, and the Son, which are the mouth of this province. The Ganges is the most important of these streams. The tracts south of the Ganges are not so well supplied with water as the country north of that river, and the artificial means of irrigation common in the East, such as wells and tanks, are provided as necessary substitutes.

The northern hills of Bahar are inhabited equally on the divisions of Hadyopoor and Sarun, whence the greater part of that article intended for the Company's purchase has been procured. This article of commerce is produced in artificial beds, consisting of the refuse of vegetable and animal matters in a state of decomposition, mixed with calcium and other earths. It is believed that the hot, dry wind which prevails in those parts for a considerable portion of the year is essential to the formation of the pots, to which, so much depends the position of this salt are supplied by the air and the permeating organic substances; but how the potasms which it contains is developed has hitherto remained undiscovered. The manufacture of cotton cloths is general throughout the province.

Opium is produced very abundantly and of excellent quality in all the districts of the province. This drug is largely monopolised by the Company's government, and the cultivators of the poppy are in consequence placed under very heavy restraints. The demand for the product, the quality, sugar, indigo, betel-nuts, and essences, particularly the agra of roses, are among the ordinary productions of the province.

The inhabitants of Bahar, particularly in the upper part of the province, are superior in size and strength to their neighbours, the Bengalees; from one-fourth to about one-third of them are Mohammedans, and the remainder Hindus. The birth-places of Buddhism is within the province, and, previous to the Mohammedan conquest, the Buddhist religion was professed by the chiefs; but this system of faith has since been completely eradiated from among them. In fact, by means both of fermented liquors and drugs, is very common, especially in the hilly districts; cleanliness is plain to be seen among their virtues, the filthiness of their villages being excessive.

It is traditionally believed that, previous to the Mohammedan invasion of Bahar, this province formed two independent sovereignties, the northern division being the natural successor of that of Mitha. The language of these two divisions consists of different dialects to the present day; both have a great affinity in the form of the characters and in many of their terms with the Bengalees. (Mill's History of British India; Apern Abbig; Renner's Memoir of a Map of Hindustan; Reports of Committees of the House of Commons on the Affairs of India.)

BAHAAR, a silt or district of Hindustan, occupying the southern part of the central portion of the province just described. This district is bounded on the north by the Ganges, on the east by the district of Boghipore, on the south by Ramghar and Boghipore, and on the west by Shahabad. The southern boundary has been but ill defined. The extreme north is bounded by the river Phalgu; the second, which is a narrow river, is adjacent to Sheikhporeh. The elevation of these hills is not considerable, the highest being not more than 700 feet. Towards the southern boundary of the district is a part of the Vindhyan chain of mountains, by which the great Gangetic plain is bounded on the south, and which, commencing in the province of Bahar, extends to Ramgareh, in the straits of Ceylon, near to Cape Comorin. These hills are double the height of those already described. The hills in this district do not any where approach the Ganges.

The Ganges is generally a mile wide in this district, and is not any where fordable within its limits. In addition to this stream, the district is watered by the Son, the Punpun, the Phalgu or Phulgar, the Bhanu, and their numerous branches. The Son, or Golden River, rises on the east side of the province of Gundawa, and flows to the N.E. through Allahabad, where it is joined by other branches; and then a more northern direction, it joins the Ganges three miles below the mouth of the Ganges. The Son is a considerable stream, and is of good water, abundant in its course, and likewise contains excellent fish, including several kinds of carp. After heavy rains the rapidity of the current is unfavourable to navigation; but, at other times, boats of considerable size pass in a direct line for about fifty-five miles between the districts of Bahar and Shahabad. This river and the Nerbbuda derive their common sources from a lake, and, flowing in opposite directions for 1500 miles, make, conjointly with the Ganges, an island of the southern part of Hindustan.

The climate is considered to be generally healthy. In spring, the heat is very great, and is, in some places, increased by the reflection of the sun from the sands in the beds of rivers, or from naked rocks. In the winter, the natives are generally kindled, and their strength in the royal garden, where frosts are rare. This district produces excellent wheat, barley, and rice; the rice is much esteemed, and is in great request in the markets of Calcutta. The cultivation of cotton is not of sufficient amount for the employment of the resources in the province, and the deficiency is supplied by the rest. Tobacco and indigo are also raised, but not in any considerable quantities. The rent paid for land is high, usually amounting to one-half its produce, yet the cultivators are generally content. When the possession of the British, the greatest part of this district was in a wild uncultivated condition, and the inhabitants, particularly in the southern part, were a prey to internal dissensions. Now the plains are universally cultivated to the very base of the hills; but the greater part of the hills themselves are utterly unfit for any kind of tillage. A great portion of the lands in the vicinity of the Ganges give two annual crops.

Nearly one-third of the lands in this district is exempted from the payment of rent, yet it is observed that the state of cultivation of this province is by no means so good as of that which is subjected to the land-tax, an effect which may perhaps be referred to the established custom of the cultivators, which has made the land fall into petty holdings. In this state of things, the majority of the zemindars are reduced to the condition of peasants, and are but little removed from a state of beggary. The generality of the cultivators who contribute to the land revenue are, and who are under the law or custom of inheritances, are, in the contrary, in very good circumstances.

The winds blow almost constantly either from the east or the west. From the middle of January to the end of March the west wind prevails; from that time to the middle of June, the wind varies from east to west, the duration being nearly equal from each quarter; thence to the end of July, the wind is constantly from the east, when it changes again, and blows from the west until the end of August. From that time until the middle of December, the wind is continually from the west, and thence to the middle of January the winds blow from the west or the east for nearly equal periods. Of course this order is liable to occasional irregularity; but taking one year with another, this statement is probably correct.

The principal towns in the district are Patna (Pamdehat), the lotus-bearing), the capital of the province; Gaya, the capital of the district; and Dhanpur. The villages are exceedingly numerous and consist of mud-built houses, huddled close together. The population was estimated in 1811 by Dr. Francis Buchanan (Hamilton) at 2,753,150 persons, of whom 744,150 were Mohammedans and 2,830,991 Hindus.

There are six places of pilgrimage in the district: these are Gaya, Rajgir, Barh, Bhuban, the river Punpun, Lobanda, and Chhaba. The first four are much revered
BAHAWULPOOR, an extensive division of the province of Mooltan in Hindustan, 280 miles long, from north-east to south-west, and 120 miles broad. This territory was, until 1811, tributary to the Afghan government, which, however, in 1818, ceded it to the British, together with the kingdom of the immediate ruler of the division, Bahawal Khan. At his death, which took place in the year just mentioned, Runjeet Singh, Raja of Lahore, taking advantage of the inferior abilities of the son and successor of Bahawal Khan, succeeded to the kingdom, and has since possessed it in full sovereignty.

Bahawulpoor is watered by the rivers of the Punjab, by which term is comprehended the country lying between the five streams tributary to the Indus, which join that river at Multan, the metropolis of Mooltan. These streams are the Jhutum or Hydaspes; the Chenab or Assan; the Ravae or Hydaspes; the Beihah or Hyphasis; and the Sutlej or Hesdrus. The soil on the banks of the river is very fertile; but westward of the Chausab, and at some distance from that stream, the land is poor, while in the most part of the division it is extremely sterile. In travelling towards the Rajput states, it is necessary to provide an establishment of camels, as in the deserts of Arabia. The rich land on the margins of the rivers is, for the most part, in a state of good cultivation; some spots are admitted by the have been cleared of the mahr trees. Places abound with wild boars, tigers, partridges, and hog-deer, are numerous on the banks of the Beihah.

The chief town of this territory is Bahawulpoor, a small town situated on the right bank of the river Gurr, which is given to the united streams of the Beihah and Sutlej. Including its gardens, this town is four miles in circumference. The houses are built of hewn bricks with flat terraces. The camels here are much in demand, owing to their strength and fleetness.

The greater part of the inhabitants are Hindus; the rest are Juta and Balouchis, both professing Mohammedianism. The manufacture of Mooltan and turbans, and some species of cotton cloths called "woven cloths", which are celebrated for the fineness of their texture are chiefly Hindu. The merchants of Bahawulpoor are also Hindus; they have a great deal of commercial business. They also make a considerable proportion of the fine raw cotton, which they produce to sell to the English manufactory, which they receive from Fargone in Marwar by way of Bikaner and the desert of Ajmer, and convey them by land-carrage through Mooltan and Lahore, crossing the Indus at Kabaeree. These Bahawulpoor merchants often trade to Bokhara, and are engaged in commercial enterprises. They take the route of Persia (Malwa), Cabul, and Bannian, and crossing the Oxus, exchange at Bokhara the productions of India for those of that quarter of Asia and of Russia, which are brought to them by the carriers of the large boats, and by the manner of crossing the Oxus is to yoke horses to small boats, and then drive them across the stream. The Gurr, on which the town of Bahawulpoor stands, is a navigable river, but is not used for the transport of merchandise, as it does not present any available line of commerce, with which country there is no trade from the upper provinces of India.

The town of Bahawulpoor is in 29° 19' N. lat., and 71° 29' 29" long; it is the seat of the collector, who has the same name, which was, in all probability, once the capital of both; but has since been superseded as to the province by Patna, and as to the district by Bahawulpoor. The town of Bahawulpoor is situated in 83° 13' N. lat., and 25° 35' E. long. It is, like its predecessor, a town of considerable buildings, only without any church or mosque. The Thames of India is 33 miles from Patna, 29 from Calcutta, and 642 from Delhi.

(U.S. POST OFFICE.)

(BAHIKA. See ALL SAINTS' BAY.)

BAHIA! A small town in the southern end of the 9th and 16th lat. and 36° and 43° 34' W. long., and consequently within the tropics of the southern hemisphere. It extends from the most northern point near Pambu on the river S. Francetpe to the Rio de Belmojol, about 400 miles in length, and its average breadth with 75 degree of latitude, and 50 degree of longitude; it is so long, that if this country at least 66,000 square miles, that it would only fall short of the whole area of the British islands by about 20,000 miles. The statistical enumeration, however, differs much in this respect. The surface of Bahia is commonly estimated at 20,000 square miles; but more modern account gives it 90,700 square miles; and, in this respect, it appears much nearer the truth.

On the east Bahía is washed by the Atlantic ocean; on the west, and in part on the north, it is divided from the continent of North America by the river Rio de Francetpe, and the streets of the ocean these provinces are divided from one another by the small province of Brazil, from which Bahia is separated by the little river Rio de Francetpe, which is the sole entrance to Bahia, and is separated from the Río de Brasil from the latter chiefly by a range of mountains. By far the greatest part of its surface is covered with thick forests, and contains only one bank of the river containing the mouths of the Rio Francetpe. The provinces of this province belong to that extensive system which comprehends the south from the south to the north of the lake Patas (Lake of Rio Patas) in the province of Rio Grande do Sul, about 70° W. lat., and extends along the coast at a distance of about 600 miles from the mouth of the Rio Patas to the south, and 600 miles in the most northern parts of the province of
Bahia, where it may be considered as terminating. The mountains which approach the shore from the north and
south, form the barrier of the coast, which traverse the interior of
Brazil, and not to the north runs along the ocean, and,
as, for that reason, called by the Portuguese Serra do Mar (the Sea Range). The highest part of this mountain-
chain is in the west, and the fertile valley of the Jamari, on or
on a boundary of the three provinces Minas Geraes, S. Paolo and
Rio Janeiro, where some summits of this range, which are
Serra de Mantiqueira, rise to between 8000 and
3500 feet above the sea. Further to the north the mountains
are lower, and the coast of Brazil is more similar to a series of
summits probably do not exceed 4000 feet. The
whole coast in the southern district of this province is called
Aimeuras, and in the northern Serra de Cincura. The
former is lower, and contains near the boundary of Minas Geraes
the Morro Ativo (High Mountains). The watershed of this
range lies in general parallel to the coast at a distance of
about 150 miles, and about 50 from the banks of the Rio
Francisco. But the offsets and branches from this bound-
dary approach the sea within about thirty miles, and
their advance still nearer to the river. They come nearest
the sea to the south of the Rio do Contas, and to the west
of the bay of Camamu. By this disposition of the lateral
branches of the mountain-range, the level, and in some part
high, drainage of the rivers, which along the coast are very
narrowly confined by the Atlantic Ocean, and which commonly are of moderate width, and extend fifty
and upwards into the interior, till they terminate in
high open plains called serrics, or near the summit of the
range. It seems that at a distance of about fifteen to
twenty miles from the sea, the rivers rise at about the same
paint ascent; for about this distance all the rivers
traversing the coast are full of cataracts and rapids, and
become unfit for the purpose of navigation.

Bahia may, with respect to its climate and productions, be
divided into three parts, of varying extent. Some
extent. The first comprehends the southern coast up to Point Mutta, or the
bay of Camamu, and the lower part of the contiguous
valleys, to a distance of about ninety or one hundred miles from the
mouth of the bay, in which district is called Beira-Mar. To
the north of this lies the Reconcava, which extends round the
Bahia de Todos os Santos, or All Saints' Bay, to Cape
S. Antonio, and from twenty to thirty miles inland. To
the west of both extend the serrics and mountains, and these
correspond also the high country which to the north of the
Reconcava occupies both banks of the Rio Itupoica, and
extends to the Rio S. Francisco, and the shores of the
ocean.

Beira-Mar enjoys many advantages. It has abundance
of fresh running water, and commonly a fertile soil, there being
if the banks and sides of the mountains are excepted, scarcely
any situation where mandioa, rice, Indian corn, the communication,
the sugar-cane, and the cotton-plant do not prosper.
But, on the other hand, heavy dews and almost incessant
rainfall are common. There is a close season; and unless
there is scarcely a distinction of seasons; the trees bear
broccoli and fruits in all stages at the same time.
The temperature of the winter is never cold enough to check
vegetation, nor is the summer hot enough to call forth
its full force, because the sky is commonly covered with
clouds. The perpetual moisture occasions ague dis-
seases; and yet if there happens to be a fortnight of
sunshine, the rich clayey soil is parched and cracks, and
freeze becomes a serious calamity. The unfavour-
able climate of this district is the cause of its having been
neglected by the Portuguese, and containing so few settle-
ments. The predominant race in the maritime towns, and
even in the valleys, are the Mambas, of Tupiniquim origin, and
probably of African descent, who have a cloud, but the
understomachs are frequent; and these,
and all the rest, as well as the breezes and heavy dews, moderate the summer
heat and support vegetation. The vine bears three
in the year, and is cultivated on the island of Ilha-pois, and
other climates with advantage; and the climate of this
fruit has hitherto rendered all attempts at making
unavailing. The country is hilly, with a gently-undulating
surface, and many large and open valleys and even plains
between the hills. The soil is commonly deficient in
manure, though rice, and many fruits and
vegetables, great quantities of sugar, tobacco, and cotton.
All the sugar and tobacco exported from Bahia is grown in the
Reconcava. The most noted district for the growth of
sugar is the valley of Iguaçu, which extends to the north-east
of the small town of Maragogype, along one of the

Bahia, the climate and soil of the district being very favourable
to their growth, especially that of rice, which returns
three hundredfold. So in this region, rice and all
the most valuable productions are cultivated; and cattle are fed with it.
But the greatest wealth of this
country, of which the inhabitants have not yet availed them-
seves, consists in the immense woods which cover the
hills, plains, valley, and mountains; the frequent rains further
the growth of the trees, which again preserve the soil in a
state of moisture.

Reconcava is properly only the country which extends
round All Saints' Bay, but as the coast south of it to the
adjoining territories of the state of Minas Geraes in
 agriculturc, and commerce, we have included it in this
district. The bay itself extends, according to Alcedo, twenty-seven
miles from north to south, and twenty-seven miles in
the widest part from east to west. Henderson says it is twenty-
three miles long from north to south, comprising from one to
the point of St. Antonio to the mouth of the river Pitanga,
and nearly thirty miles wide from east to west, which seems
to be nearest the truth. Southey, in his history of Brazil,
asserts that it extends both northward and westward a
whole degree. This last is doubtless an exaggerated state-
ment, which, however, as far as regards the length from
north to south may be defended, if the whole coast to
point Mutta is included. From this cape to the island of All Saints' Bay, a series of islands extend, between which and
the continent small vessels and barges may make their
way to Bahia without entering the sea. Adjacent to
Point Mutta, on the north, is the bay of Camamu, in which
the shore vessels may rise; and from this point the
bay itself contains some islands, and to the north of it
lies the island of Boyapes, of considerable extent, and
farther north others of less importance. Then follows
the island of Tinbare, which is eighteen miles long and
continues to the False Bar (Barra Falsa) or the western entrance of All Saints' Bay.
This entrance is less than two miles wide at the narrowest
point, and by it the numerous vessels and barges proceed from the
bay of Camamu to the eastern entrance of All Saints' Bay.
Foreign vessels enter All Saints' Bay by the
eastern entrance, which is eight miles wide. Both
entrances bring the island of Ilhara, which is twenty-
three miles long from north to south, and ten in the widest
part. It is of irregular form, having a bar on the
north-
side, and a large curving projection on the eastern, and its
surface presents considerable inequalities. The soil of this
island is fertile, and planted with cocoa-palms, mangoes, jexas
and oranges. It has also a large fishery, and several
distilleries. The number of its in-
habitants amounts to upwards of 14,000, of which nearly one
half, or at least 7000, live in the port of St. Gonelo.
The capital of the province, St. Salvador da Bahia de Todos os
Santos, lies near the eastern entrance of All Saints' Bay, and is
the town of Bahia. Foreign vessels enter All Saints' Bay by the
eastern entrance, which is eight miles wide. Both
entrances bring the island of Ilhara, which is twenty-
three miles long from north to south, and ten in the widest
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distilleries. The number of its in-
habitants amounts to upwards of 14,000, of which nearly one
half, or at least 7000, live in the port of St. Gonelo.
branches of the Paraguazu river. It is about five miles long and of varying width; its black soil is most favourable to the sugar-cane. There are nearly twenty sugar works within its narrow limits. Tobacco is raised in many districts of the Reconceve; but the greatest quantity and the best quality is grown in the near-by region of Cachoeira, an inland town with upwards of 12,000 inhabitants, situated on the river Paraguazu. Cotton is raised in several districts; and likewise brought from the sertões and adjacent provinces. All these advantages, together with those of climate, situation, and soil, make it almost certain that the colony of the whiskers, render the Reconceve the most populous district of Brazil, and probably of all South America. Villages and farm-houses are frequent; and the number of small towns may amount to twenty. Although we know not the exact state of the province, it is probable that the Reconceve, together with the capital, contains more than three-fifths of the whole population of the province, which, according to the latest accounts (about 1850), amounted to 812,500 persons.

The remainder of the province, which is of a very different character, comprehends the mountains and the sertões. The latter are open dry plains on the backs of the mountains or between their rages, and afford at certain seasons abundant pasture to fameous. Sometimes of cut the season however does not extend to the province. The rain which falls here comes only in thunder-showers, which are of course, irregular, in no part frequent, and they occur more rarely in the northern districts of the province than in the south. A foot or more of ground is immediately covered with the richest verdure, and the cattle fatten; but when drought succeeds to this season of abundance, they browse upon such shrubs as resist the burning sun. If then the streams fail, and the tanks, which the thunder-showers had filled, are dried up, a dreadful mortality ensues among the cattle. Some places, especially in the more narrow valleys, are wooded, and contain a better soil; and in such the few towns of this region have been built. Here mandiocas, vegetables, fruit, and cotton are raised in the region of Bahia to the interior of Brazil, traverse the sertões, and along them villages have been built, and some vegetables are raised; but the largest part of this district has no inhabitants except two native nations, the Caumanos and the Patochos.

Among the rivers which water this province, the Rio de São Francisco is by far the largest. Before it arrives at its boundary, this river has already run about 500 miles from its source, which lies to the south of Vida Riba in Mina Gerais, and it continues its course to the north, north-east and east between Bahia and the sertão of Pernambuco for at least 500 miles. About 200 miles from its mouth it leaves Bahia, and forms a lower and boundary between the counties of Sergipe and Pernambuco. At a distance above the place where it leaves Bahia, the river becomes unfit for navigation on account of its long rapids and high calçadões. Higher up, its course lies in a wide valley, which the mandateos are short, and do not impede navigation. This valley lies at a considerable elevation above the sea, perhaps not much less than 1000 feet, if we consider the number of the rapids and the height of the falls of water. For further particulars of this river, its navigation and tributaries, see Francisco.

The next in size is the river Itapuca, which discharges its waters between the mouth of the Rio S. Francisco and Cape St. Antonio, at nearly an equal distance from each. Its length may amount to nearly 700 miles; but it is only navigable for small vessels, and adjacent country belongs to the sertões, and is only fit for breeding cattle.

The most important river of Bahia is the Rio Paraguazu or Paraguassou, which rises in the core of the sertões, and forms the coast before it descends to the Reconceve. It begins to be navigable at Cachoeira, above which town rocks impede the navigation. Its lower course lies through the most fertile and best cultivated district of the Reconceve, in the region of the same name, and the sulphur springs of the Bahia are collected. The whole course of the river may be about 200 miles.

The other rivers of the Reconceve are the Iguague, the Serrafraga, the Secrey, the Serrape, the Bauru, the Borrach, the Maratun, and the Parahyba. The first runs nearly 100 miles, and is navigable for large boats for twenty miles, these rivers are small streams, and only accessible to boats as far as the tide runs up. The same observation is applicable to the rivers which enter the sea to the north of Point Mutta; among which the most considerable are the Jiquité, the Acaray, and Marasha. The largest of the rivers is the Itapuca, which runs 75 miles.

The rivers which enter the ocean to the south of Point Mutta do not differ much from the former, except that they rise at a much greater distance from the coast, the course of the larger streams being 150 miles and upwards. Of the most considerable, are the Borrach, the Maratun, or Pardo, and the Belmonte, which separates Bahia from the province of Espiritu Santo. Between the two latter runs the river Salis, which, about twenty-eight miles from the shore, divides into two branches; of which one enters the treaty of Espiritu Santo, the other, one mouth of the river. The lakes of Bahia are not numerous nor of great extent. The largest is that of Itajipe, between the Rio de Janeiro and the river Ilheus. It is very deep, seven miles in circumference and three in length, with a small island in the middle. It is bordered with extensive woods and forests, from which several small streams flow into this lake; the surplus water is carried to the sea by the river Itajipe, which is narrow and deep, and about twenty-five miles long. The practice is, that sometimes two pieces of native copper perhaps in the world was found about two miles to the east of the town of Cachoeira. It weighed 1550 pounds, and is now in the Royal Museum at Lisbon. Near Maragogype, armenian bole and amber are found. Maragogype is a river, which takes its name from the place, and is navigable for eight miles from Brotas. The distance of salt-petre from the sea prevents it from being collected. Rock-salt is not uncommon in the mountains along the Rio S. Francisco.

The subject of agriculture and horticultural cultivation are numerous and important. In the more elevated regions to the west, in those places which have a soil favourable to agriculture, wheat is raised; and all the fruit as well as the pulse and grain of Portugal prosper. There are grapes and oranges of good quality, and olives are introduced and prosper. Cigar-plant and pepper-trees, as well as orange-tree, have been introduced and prosper. Fig trees, pine-apples, cocoa-nuts, mangos and jarcas are abundant along the coast. The culture of hemp has several times been attempted, but not successfully; the wild hemp however, affords a supply of tinte, and the bark of the passion-tree supplies sugar and cable; the latter answers better for calamine because it lasts longer under water.

The spontaneous products of the soil, especially in the woods, are very valuable. The most important of these, we have not yet found their way into our botanical system. Among the shrubs, there are several which produce gums and resins, and are cultivated for the same purpose. The most important of these is the gum from the wild-castor, Tanacia, which is not inferior to the castor-oil of the Indies.
serve for basket-work and are beaten into tow. Their juice is used in tanning; being bruised and cast into the lakes and rivers, they stain the water with a dark colour and intoxicate or poison the fish. These plants twist round the trees, climb up to them, grow downwards to the ground, to the treetop, and springing up again, cross from bough to bough; and in this way the bear, the beaver, and the wild mink, the river otter, with burly hamer shots, till the whole woods are hung with their garlanding, and rendered almost impervious. The monkeys travel along this wild rigging, swing from it by the tail, and perpendicular to it, by the very short fur that is almost interwoven: that it has the appearance of a net, and neither birds nor beasts can get through it. Some are as thick as a man's leg, their shape three-sided, or square or round: they grow in knots or threads and every possible form follows it. To unweave the way, or to break them is impossible. Frequently they kill the tree which supports them; and sometimes they remain standing after the trunk which they have strangled has mouldered in their involutions. (Southey.)

The zoology of this region is less interesting. The domestic animals of Europe have been introduced, but they are far from being numerous, except black cattle which are fed on the services in great numbers; but, owing to the fertility of the soil, the sheep thrive; they are subject to great mortality, and the supply is not sufficient for the sugar-works, the usual consumption, and the furnishing of ships. The deficiency is made up by the provinces of Pianhy and Oroz. Hogs are few; and sheep and goats still fewer, here and there. As hunting is not much practiced, the wild animals, the ant or tapir, the ounce, the boar, and deer, are the most numerous species and most hunted. Monkeys of different kinds are common in the woody districts. Parrots and some other birds, more distinguished by their color than by their manner of life, are also to be seen. The silk-worm is found in all parts of the province. Among the snakes some are poisonous. Various species of bees produce honey; some in the cavities of the trunks of the trees, as in Poland and other countries; others in little hives of wax which they form in the tree. When the fruit season arrives on the coast, the produce of the fisheries forms a considerable portion of exportation, have much decreased in number; and at present the oil which is obtained from them is hardly adequate to the consumption of the provinces. Sharks are very frequent, and a good deal of oil is extracted from their livers. The sea as well as the rivers, and especially the Rio S. Francisco, contain many other kinds of fish, which afford substance to numerous families.

The want of water is twined into three comarcas or districts, of which that of Ilbes was formerly a separate capitanía, and comprehends the coast south of the island of Tinhara, and all the country inland to a distance of about a hundred miles. The comarca of BABH, which lies to the north, is inhabited by the last remnants of the province of Babu, and is subject to great mortalities. The comarca to the north of it up to the boundary of the provinces Barberje and Pernambuco. The comarca of Jacobina comprehends the western part of the province.

The principal places in Ilbes are Oeibe, Ilbes, Villa de Contas, and Camamby; in BABH, besides the capital (with 182,000 inhabitants), Cochoerra, St. Amuno, Maramague; and in the comarca of Jacobina is Jacobina, Rio de Contas, and Urbas, on the Rio S. Francisco.

(Southey.)

(Memorial on the Vaale of the Lacs de Nataur, et sur celle du Fleuve sans Eau.)

From the Copo convents in the Nataur valley it takes an hour and a half to reach the Babu-bela; the descent of the ridge which divides the two valleys is very picturesque. Several writers have supposed that the Nile, or at least a branch of it, once turned westwards near the pyramids of Sakkara, where there is a depression in the ridge that bounds the valley of the Nile on the west. The Babu-bela, or the valley now called Babu-bela-as far as the gulf of the Arabs. Major Rennell, however, totally discards this supposition, which appears to have been in some measure founded on a misunderstood passage of Belzoni. (See Belzoni's translation of this passage, Journ. of Ed., p. 330.) Herodotus (i. 99) says, that before the time of King Menes, and consequently before the building of Memphis, the river flowed entirely along the sandy mountains on the side of Libya, that is to say, through the low lands now called the Plain of Mummies, near Sakkar. Menes constructed a bank 100 stadia to the south of Memphis, and led the river into a new channel which he had excavated, more to the eastward, in the middle of the valley where it flows at present, and then forced the water, Memphis, and Heliopolis, and in Herodotus' time, when the Persians were masters of the country, the embankment was annually repaired and guarded by soldiers; for, says Herodotus, 'if the river were to break up, it is our business to prevent the risk of being covered with water.' All this evidently has nothing to do with the Babu-bela, which is far away on the other side of the western ridge. It has been supposed that part of the water of the Nile, when the river was flowing close to the mountains, was conveyed into the Libyan desert through the depression in the ridge which Porcia observed near Sakkara; but Major Rennell observes that the level of the depression is above the level of the river at high water, and the story about the river being turned into a sandy bed in the form in which it has come down to us.
There is another Bahr-bela-ma mentioned by Browne, further south, between the canal of Youssef and Lake Keroum, or Marris; it was formerly part of the communication between the Nile and the lake, but is now dry, the canal passing more to the south-west. (Rennell, *Geographical System of Herodotus*, sect. 15.) In fact, Bahr-bela-ma seems to be a general appellation with the Arabs for a place where water once was or appears to have been flowing. We may observe here, that petrified wood is found not only in the Bahr-bela-ma visited by Andreae, but lies also scattered in large heaps over the plat of the Lycian testa, which Hornemann crossed for several days to the westward on his way to Swah. He saw trunks of trees, of from thirty to forty feet in length, broken and shivered into large splinters, lying near each other. Some trunks are twelve feet in circumference, and still retain their side branches, and the grain is perfectly discernible. They are of a dark, and some of a brownish, colour, and so much like wood, that the slaves belonging to the caravan used to gather them and bring them to the camp as fuel. But none of this petrified wood has the appearance of having been wrought with tools, or applied to any purpose of man, and the story of the mastas and other parts of ships which were said to have been found in the Bahr-bela-ma are mere visions of a fancy worked upon by the contemptuation of a favourite hypothesis. How the trees came upon the Libyan waste is another question; the fact, however, proves that that part of the world must have undergone very great changes at remote times. [See NITRO LAKES.]

BAHRIR-AL-ARIAD. [See Nile.]
BAHRIR-AL-ARZAK. [See Nile.]

BAIREIN BAY is on the Arabian coast of the Persian Gulf, between Ras Reccon and Ras Tanoura. It extends in a south-western direction 70 miles, but is so completely filled in by mangroves and mud shoals as to be perfectly un navigable by vessels of burden. Its shores are low and sandy, and, with the exception of a short distance to the south-west of Ras Reccon, almost without inhabitants.

[Bahrir-Al-Aiad Map]

BAIREIN ISLAND, otherwise called AVAL, is situated in the middle of Bairein Bay. It is 274 miles long from north to south, and about 10 miles across; it is surrounded by shoals, most of which are dry at low water. A range of moderately high hills runs through the centre of the island, but the shores are low. The island is fertile, and covered with plantations of date trees, but only about one fifth of its surface is under cultivation. There are numerous springs of excellent water in the interior, but at too great a distance from the port to be available for domestic use. The waters of a few oases can be supplied, as well as all that is used on the island at Aden, which is brought up from the bottom of the sea at the depth of eighteen feet, where there is a spring of fresh water. It is procured in skins with the top of a jar fitted to the mouth; through this orifice the fresh water rushes into the skin, but, as may be supposed from the method of obtaining it, the water is rather brackish and expensive.

The chief town, called Manama, is at the north-east extremity, and is large and populous, being supposed to contain upwards of 40,000 inhabitants. The buildings are comparatively well constructed, and the place altogether more respectable than any town in the Persian Gulf. The bazaar is well supplied with flocks, sheep, cattle, poultry, fish and vegetables, and a very considerable trade is carried on with the interior of the island. A very considerable trade is carried on with the interior of the island. A very considerable trade is carried on with the interior of the island. A short distance to the south-west of Ras Al-Khima and Garm. The prices of cattle and sheep are, however, higher than at any other port in the Gulf, and rice, being an article of importation, is scarce and dear. Upwards of 140 vessels of 15-200 tons each are employed in traditional trade. The port is constructed as to answer for war or traffic; but the pearl fishery is of the greatest importance to the island, which in the season employs 2,400 boats, each containing from six to twenty men. The annual produce of these fishers amounts, it is said, to sixteen or twenty thousand dollars.

There is a very good harbour to the north of Manama, but it is open to the north-west winds, which blow strong during the winter months; and another to the south-east of the town, which, though smaller, and not so easy of access, should be preferred, as it is sheltered from all winds.

The town of Ruffin, situated on a hill seven miles south of Manama, and three from the eastern shore, is neat and commodious; it is, like most Arabian towns, a fort surrounded by inclosed houses built on the ruins of a former town; and still further to the south, on the eastern shore, are very extensive ruins. Besides these there are about fifteen villages on the island.

The island of Bahrein, or Baireen, is about forty miles north of Bahrein, and is very low, and nearly divided into two by the sea at high water. It forms the eastern side of Bahrein harbour, and the northern of the smaller port to the south-east. At its south-west extremity the town of Maharrag, almost midway to the eastern island of Manama, is a fort surrounded by inclosed houses built on the ruins of a former town; and still further to the south, on the eastern shore, are very extensive ruins. Besides these there are about fifteen villages on the island.

Manama lies in 26° 14′ N. lat., 50° 36′ E. long. It is a high water at 8th. 20m. p.m., and the tide rises seven feet. It was surveyed by the East India Company's Manama in 1825.

This island has undergone numerous political changes. About the time of the first arrival of the Portugueze it was tributary to the king of Ormus, who applied to them for assistance to enforce the payment of arrears, and a detachment of six months was sent to take the town. The Portugueze thus gained a footing on the island, where they maintained, with more or less success, for nearly a century, and there still exists, three miles west of Manama, the ruins of a fort, off which lies a small rock on which was a light. After the Portugueze had more or less garrisoned it fell under the dominion of Persia. Since that time it has been successively in the possession of various independent Arab chiefs of the neighbouring continent, as their titles became powerful; to the Wahabees at one time, or at another has been successively a tributary to the kings of Ormus, or Bushire, or to the Imam of Ormus or the last monarch, it now pays a tribute of 30,000 shekels yearly.

The Bahrein islands were known to the ancient geographers under the names of Bairein and Aden; but according to an old but not a probable tradition, the Phoenicians on the coast of the Mediterranean emigrated from these islands, and gave the names of Tyrus and Arade to the two small islands on the coast of Phoenicia, the one of which the Greeks called Tyre and Arados, and the name of Phoenicians, and mentions the springs of fresh water under the sea.

[Herodotus, *The Island of the Adriatic*; Pausanias, *Kilomeus,* &c.]
BAI]

BAI, the name of a sea-port town and a celebrated
venerating-places of the ancient Romans, which was situated
on the western shore of the Bay of Naples, between the
Lunette bays [see below], and Cape Misenum, and
opposite to the town of Puteoli, now Pozzuoli, from which
it was distant about three miles across the water.
The ground on which Bari stood is supposed to be that crescent-
like sweep of coast between the base of Mount Grillo, which
divides the bay in half, and the promontory on which the present
Castle of Bari stands. It is a narrow semicircular
slip of ground, about one mile in
length and confined between the hills and the sea. Here
the hills of Bari rise to their highest point, with a few
villas and gardens for the possession of this spot,
often encroached upon the sea. Homer
(Carm. 2, 18) alludes to this practice. Remains of
subterranean foundations, and of jetties and buttresses,
projecting into the water, are still seen. The only remains
of the town, which has two or three of, at all appearance,
thermae, or warm-baths. There is one building, however,
proceeding behind a small projection of the shore, near
the centre of the crescent, which is generally believed to
be the site of the temple of Minerva, founded, according to the
tradition, by Minos or Anacharsis, a Spartan, and called
Minerva, but of which only a few wrecks of the island
are known to have had a temple at Bari.
It is an elegant structure, octagonal outside, but circular in
its internal area; the diameter of which is about ninety
feet. Adjoining to the temple are several small
rooms, built into the sides of the temple, and more
recent buildings, which are now occupied by the
Subjects. The pretended Temple of Minerva, also called
Traguida, consists of two quadrangular rooms, and a circular
one: this last was vaulted over like a rotunda, receiving the
light from a small opening at the top, and is about 60 feet
in diameter. There is a niche in the interior, and several recesses.
The pavement is swamped with water, which issues out of
the ground.

The whole of this country is full of mineral springs.
The baths, sometimes called Tracoli, and sometimes the
baths of Nero, although there is no reason for believing
that they were constructed by that emperor (Pauli, Anti-
quitates di Pozzuoli), are two separate buildings near one
another. They stand on the slope of Mount Grillo, farther from
the sea than the baths of the Livonian, and near the same
villa somewhere in this neighbourhood; but the site is not
known, nor that of the villa of Julius Caesar. Augustus
frequently visited the coast of Bari; and his nephew, young Mar-
cellus, the presumptuous heir of the empire, died here at the
age of twenty, of a disease of the eyes. For which he had
been advised to try the waters and the climate of Bari.
Under the profligate Caesars who succeeded Augustus,
Bari became a scene of vice, lust, and cruelty: Tiburiae,
Caliugula, Nero, and Caracalla, left on these shores memo-
rabilia of the most degrading and the most debasing
emperors, and the unbridled licentiousness that prevailed
here. Silus, Martial, and Statius celebrated the beauties of
Bari. The great attractions of Bari seem to have been
its genial winterless climate; its situation protected by a
chain of hills; the finest of which is the sea, and its
south-west winds, and open to the eastern breezes, which is
freshened by blowing across the bay; a sea generally
smooth, abundant hot-springs, and a delightful view—these
were the charms which made opulent men, tired of the
more benumbed delights of Italy, resort to Bari for
quietness and for health.

With the fall of the empire, Bari became deserted by its
Roman visitors, its villas and palaces fell into decay, and
the town was left to its own decrees and to its own
vile usurpation of the Temple of Serapis, near Pozzuoli. [See
Pozzuoli.] The whole coast of Bari is now a desert. A few
masserie or farms and vineyards are scattered on the
hills above, but chiefly on the opposite slope towards the
Lake Fusaro and Cumas. [See Cumae.] The numerous
springs being neglected, have caused the decadence of
the baths, and the wretchedness of the inhabitants, which
render the air unhealthy in summer. The ground
is strewn with foundations and remains of walls, bricks,
cement, and pieces of marble. Under the water, near the
shore, cameois, carboli, and other valuable stones have
been found. The name of Gulf of Bari is now applied to the extent
of sea between Cape Misenum and the point of Pozzuoli, which
affords a good anchorage, and fine sail of men and ships of war,
while the bay of Naples is exposed to the fury of the fiera
or south-west wind. The castle of Bari is a modern struc-
ture, rising high above the town, and consisting of three
small forts, with some garrisons, which command the
roads, and a garrison is kept in it. South of this point is the
coast of Bari, which was a continuation of Bari. Hortensius,
the contemporary and aide de camp of Cicero, had here a fine villa,
where he afterwards several
several emperors resided, and where he was murdered by
his son with his mother. The attempt to drown Agrippina took place
 offshore: she was afterwards murdered in her own villa
near the Lucerne Lake; here she was burned; and her ashes
buried in the sacred wood of Averno. (See Suetonius. Min. 13.)
The monument was raised to her after her death. (Tacit. xiv.)
The structure, however, which now goes by the name of
Agrippina's sepulchre appears to have been part of a
theatre probably belonging to Hortensius's villa. Further
borders. The innermost part forms a Corey Colle, a number of
small subterranean apartments, the walls of which are coated
with cement; the partitions between do not reach the vault.
It was probably a place for either soldiers or slaves.
At Hadrian's villa, near Tivoli, there are ranges of similar
buildings, which are never molested by the Emperor's guards when he resided there. The poor village
of Bacoli or Bauli is near the Cento Camerelle; it is inhabited
by fishermen. On the hill above it is the structure
called Scipione Mistero, which was evidently a reservoir
for water. It is the best preserved of the Roman
neighbourhood. Forty-eight pillars ranged in four rows
support the vault; they are as well as the lateral walls, are
covered with cement extremely hard.

This reservoir is supposed to have been one of the
famous fish-ponds of Lucullus; others again think it to have
been part of Nero's projected, but never finished, reservoir,
in which he intended to collect all the hot springs between
Misenum and Avernus. In 1720, and appear to have been
the site of the town of Misenum; by others it is thought to have been one of
the

Mississippi. (Phleb.) It is shaded by mulberries and poplars, garnished by fountains of
debaths, and their lonely paths lined by tombs intermingled
cypress. This was a vast cemetery for the people who
died in this vicinity; the tombs are consequently
magnificent, and the effigies of the deceased, engraved on the
columns, show the Egyptians and the Romans, the
Elytian shades, and the depository of the body, becoming,
in the fancy of poets, confounded with the abode of the souls,
the burying ground of Misenum. The town, styled the Elytian
them, the works commenced in 1720, and appear to have
the dead were waited to their last abode. The village of Canis
Marius, afterwards the property of Lucullus, is said to have
been on the pinacle of the hill or promontory of Misenum,
housing on one side to the sea of Sicily, and on the other to
the Tuscan sea. (Phleb. ii. 5.) Tiburiae died in this
The town of Misenum appears to have been at the
base of the hill. To the west of the town of Misenum, and
is about eleven miles long and eight broad. It is watered by
a little stream, the Hourepeleco, which falls into the Nile,
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infined from the department not being mentioned in the last edition of M. Malte Brun's Geographie Universelle (Paris, 1835), as one of those yielding copper. The works were in an inconvenient and confined spot, which prevented their being carried on so economically as they might have been if better situated. These disadvantages, however, were more than compensated by the constant supply of water as a moving power, and by a supply of wood close at hand. The ore was worked in ten mines, and the supply is stated in the Encyc. Method. Paris, 1809, to have been abundant. The building for the processes of roasting, melting, and refining the ore, separating the silver which was contained in it, &c., were extensive.

The yellow copper ore, and gray copper ore, each yielding about 50 per cent. of copper (and the latter also from 1 to 2 per cent. of silver), are found in the neighbourhood of these mines.

About a mile N.W. of the village, and on the other side of the river, are the ironworks of Echaux, supplied with ore from a mine in the neighbourhood, or from La Basteide de Clarence, in the same department. The iron wrought here is of excellent quality, and finds a ready sale.

The population of the commune of St. Etienne de Baille-gory in 1832 was 3483; that of the village itself, 1399.

Tikal, the largest and most perfect of all the moun-
tain lakes, is embedded in the mountain-ranges which skirt the north the high table-land of that part of Asia. It lies between 51° and 56° N. lat., and between 104° and 111° E. long. Its length, according to Georgii, is 355 miles, but this is reduced by Ritter to 170 miles. Ritter, therefore, compares it very properly with the Adriatic Sea, from the gulf of Trieste to the straits of Otranto; but it is not half as wide as that part of the Mediterranean. Its widest part lies between the extremity of the island of Oland and the coast of Russia, and measures about fifty-two miles; and between the mouth of the Selenga and the rivulet Bulgedelikha, the two shores are only twenty miles distant from one another. Its mean breadth varies between thirty and forty miles, and its circumference is said not to exceed 1200 miles. It is covered by Berghaus to cover 14,800 square miles, so that it occupies a space larger than half of Scotland. This lake, like other alpine lakes, is very deep, with the exception of a few flats along the shores, and some of the bottom has not been reached by a line of a hundred fathoms.

The greatest part of the lake extends in the direction south-west and north-east, but both extremities are somewhat bent: the northern, from the mouth of the river Bargus, to the most northern end of the lake, lies near north and south; and the southern, from the place where the lower Angara issues from it, to its western extremity, east and west; but so that some limitation of the lake may be compared to the segment of a circle. That portion of the lake which is seen from the west, is called the river Selinga, and of the outlet of the Lower Angara, is the narrowest, and commonly called the Bay of Kulkut.

Within the curvature of the segment, or on the north-western shores of the lake, the mountains which encircle it so closely as to constitute in many parts the very shores, are interrupted only by one narrow and deep crevice, which occurs towards the western extremity of the lake, and by which the Lower Angara carries off the surplus of the waters of the lake. Numerous streams descend from these heights into the lake, and form only torrents, which, however, commonly flow even in the hottest summer. The mountain-ranges, which incline the eastern and southern shores of the lake, advance, in many parts of the country, to the very shores of the lake, but they are more broken into bays and capes, and besides, there are two large openings and one narrow opening in them. By the latter, the Bargusian river, which enters the lake north of 54° N. lat. after a course of about 450 miles, and the immense fan of the Bargusian country in extent, exceeds any one of the counties of England, except Yorkshire. The Upper Angara, which, after a course of nearly 450 miles, discharges its waters into the north-western extremity of the lake, enters it by an opening which, on the shores, enlarges to about ten miles and upwards, and drains a country which perhaps is not inferior to all Scotland south of the Forth and Clyde canal. But by far the greatest volume of water is brought down by the Selenga, which terminates its long course of about 700 miles, nearly in the middle of the south-western side, be-
tween 55° and 57° N. lat. At its mouth, the mountains skirting the shores of the lake are about twenty miles distant from one another, and the Selenga, with its tributaries, drains a country extending 5° N. and 8°, and nearly 10° from E. to W.; it probably does not yield an extent to be less than the river Behring. Thus the basin of the lake extends to a considerable distance from its shores on the east and south. At the source of the Upper Angara its boundary is distant upwards of 250 miles direct distance, and along the course of the Bargusian, nearly 100: the river which traverses in the illustration, as the other, rises at a distance of at least 350 miles. On the north-western side of the lake its basin rarely extends to twenty miles, and perhaps never farther. The rivers which, besides the three larger ones already mentioned, empty themselves into the lake, are very small, but very numerous. Georgii asserts that they amount to 177, and on a chart published by the Russian government some years ago, 140 are inserted. Georgii asserts that the water carried off from the lake by the Lower Angara, its only outlet, though it is an extremely rapid stream, is not one-tenth of the mass brought down by these numerous rivers.

According to an incomplete barometrical measurement, the surface of the lake was stated to be 2318 feet above the sea, but most modern authorities consider the lake between 2440 and 2475 feet. This accounts, in a great degree, for the severity of the seasons on its shores and the whole extent of its basin. The summer is very short, and the nights are cold and often frosty; sometimes it begins to snow in August, and even in July. The course of summer is in Russia no less remarkable than the commencement of winter. It always found, even during summer heat. This is probably in a great measure to be attributed to the thick cold fog, which often, for many days together, covers the surface of the lake even in the months of July and August. The lake is therefore covered with ice in the months of December and January, and not unfrequently in May, or even in June. In comparing these data with the climate of Europe, we find that they agree pretty well with that of the northern shores of the Gulf of Bothnia, which is about 10° farther to the north.

This severity of the seasons renders the countries about the lake unable to maintain a numerous population, but still the population is less than we should suppose it to be, even taking the climate into the calculations. The Russian districts of its basin being subject to the Chinese empire, and in the Russian accounts, the northern being mixed up with other countries, we are unable to form any idea of the population which approximates to truth; but according to what we are able to learn from Berghaus, the whole population of the countries belonging to the basin of the lake does not much exceed 50,000, and certainly falls short of 100,000, even if we make the necessary allowance for the colonies lately established there by the Russian government. This scarcity of population, however, is not to be ascribed entirely to the want of productive power in the country itself, but to the late period in which agriculture was introdu-
ced, and the slow progress of that art in cold countries.

After the beginning of the last century the culture of the potato was introduced into the country, and very few places undoubted signs that, at some remote period, the land was cultivated with care by some unknown races, which also worked the iron and copper mines, and probably by the inhabitants of the borders of the lake. More than fifty years after the introduction of the potato, Georgii found only a few fields cultivated on the banks of the Bargusian, and still much less on those of the I plor Angara; but on the delta of the Selenga, from eight to nine miles from the mouth of the river, there are a number of villages. Since that time some improvements have taken place, but to no great extent. On the Selenga alone a small quantity of wheat is raised; besides this, winter-rye, barley, oats, hemp, and tobacco, like the most common vegetables, as cabbages, potatoes, barley, are grown in abundance. The

Not one-fourth of the present population, small as it is, can be maintained by the scanty produce of its agriculture; but the lake supplies them with food in abundance. Con-
tery to what is generally observed of mountain lakes, the Baikal abounds in fish, and from this source nearly all the inhabitants of its shores derive subsistence and even a competency. The largest fish of the Baikal is the sturgeon (Styrac aceraperus), which also ascends the Selenga, Bargusin, and Upper Angara, and, in the month of August, rises into the lake and ascends the larger rivers and some of their tributaries in incredible numbers; and thus affords subsistence to all who inhabit their banks. A considerable quantity of salmon, in a frozen state, is sent to the adjacent countries. The lake is fringed with horses, sheep, and a little cattle, and usually varies in length from fourteen to sixteen inches. The seals also afford some profit to the fishermen. These animals are found all over the lake, but especially to the north of the mouth of the Bargusin; but the rate of the same species as those of the Baltic and German seas. Georgi could discover no difference, except that the hair of the Baikal is softer. From 1200 to 2000 seals are annually killed, especially the young ones, whose soft skin is much sought after by the Chinese, who dye them and use them to ornament their state-dresses. The skins obtained from the seals are partly exported to China, and partly consumed in the preparation of leather in Siberia.

The existence of the salmon, the seal, and of a kind of sponge in the fresh water of the Baikal, has given rise to many speculations among naturalists. Palas and Georgi are unable to explain this phenomenon, otherwise than on the supposition that the Lake of Baikal, at some remote period, was connected with the Northern Ocean, though there is no proof that the connecting passage exists. The salmon rise at least to 3000 feet above the level of the sea: or, on another supposition, that these animals were transported into the lake by some material munition of the Lena river, whose sources are much higher, or that small salmon, carried on the current into the lake, have the same habits as the larger and more numerous species of the river, which rises at least to 3000 feet. The salmon is also found in another lake of Siberia, that of Madrabar, which is embedded in the mountains of Saiasik. A singular fish of the Baikal has been noticed by Pallas, and is called by him Aesclepya Cuculateme. Its length varies from four to six inches, and except the head, a very thin back, the skin and the fins, it consists only of a piece of fat, which soon dissolves over the fire into very fine tars, which may be used nearly like olive oil, that resembles the water of the lake. Pallas states that it had only been known by the fishermen of the Baikal for the first time five years before the arrival of Palas, and that in 1770 and 1771 it made its appearance in such immense numbers, that dead and dying fish were everywhere on the shore of the Bargusin, covered the shores to the depth of several feet. In 1773 it had again become so rare that Pallas and Georgi had some difficulty in procuring a few specimens. Pallas is of opinion that this fish generally lives near the bottom of the lake in the greatest depths, and that it was carried to the surface of the lake, in the above-mentioned years, by some draughts of gas or air, but being here out of its element, languished and died; for it was always taken either actually dead, or in a state of perfect decomposition. The flesh of this fish was found a ready sale among the Chinese.

Agriculture is exclusively exercised by the Russians settled on the shores of the lake; but in the fisheries the natives, especially the Tunguses, have some part. The Tunguses and Upper Angaroff, but not the lower Angara, are numerous in the woods and on the steppes; and others abound in the Taimir. Beans, peas, and corn are cultivated in the Upper Angara, but the elk and the musk-goat nearly in every district bordering on the lake. The musk obtained from the latter, however, does not emit so strong a scent as that obtained from these animals in Tibet. Deer and stags abound everywhere, and deer and deer are met with in a wild state in the northern mountains, and even there it is not numerous. The common hare, the mountain hare (Lepus Epus), and the Daurian hare (Lepus Dauricus) are found in great numbers on the steppes. The sable too as well as the bermeliouse abound in many districts. The squirrel (Sciurus vulgaris) exists in this region in incredible numbers. Sometimes they unite in companies and travel through the woods and steppes, swimming over rivers, and traversing the summits of the mountains. The colour of the skin is yellow in summer and orange in winter, but in the autumn, it attains a great size, and sometimes weighs 190 pounds. During the whole summer this fish is caught and salted, and, as well as the caviar and the isinglass prepared from its roe and bladder, is destined for the market. The salmon (Salmo trutta) in the month of August, rises into the lake and ascends the larger rivers and some of their tributaries in incredible numbers; and thus affords subsistence to all who inhabit their banks. A considerable quantity of salmon, in a frozen state, is sent to the adjacent countries. The lake is fringed with horses, sheep, and a little cattle, and usually varies in length from fourteen to sixteen inches. The seals also afford some profit to the fishermen. These animals are found all over the lake, but especially to the north of the mouth of the Bargusin; but the rate of the same species as those of the Baltic and German seas. Georgi could discover no difference, except that the hair of the Baikal is softer. From 1200 to 2000 seals are annually killed, especially the young ones, whose soft skin is much sought after by the Chinese, who dye them and use them to ornament their state-dresses. The skins obtained from the seals are partly exported to China, and partly consumed in the preparation of leather in Siberia.

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BAIKAL MOUNTAINS is a name sometimes extended to all the mountain ranges, which inclose the lake of BAIKAL, and surround and compose the basin; but as the western limits of the lake are where the montains of SAKHAI, and the southern and eastern to the extensive mountain system of Dauria or the Kingdom Oilla, the name of BAIKAL MOUNTAINS is with more propriety limited to that part which separates the lowlands of Shiberia, and unites the montains of SAKHAI with those on the banks of the Upper Angara, which form a part of the Daurian mountain-system. In this more limited sense the BAIKAL MOUNTAINS begin at, and are part of the montains of SAKHAI, which stands between the western extremity of the lake of BAIKAL (or the Kultuk) and the lake of KOSOGOLO, and terminate with the high range which divides the lower course of the Upper Angara from the tributaries of the Lena; consisting of it has been estimated about 118° 17' and 118° 37' E. long. The length of this range may amount to upwards of 500 miles; but the estimate of its breadth will vary according as we reckon only the mountainous part, or take in also its extensive slopes towards the lowlands of SIBERIA, on the Yenisei River. The montains occupy, in some places, hardly two or twelve miles; in others upwards of sixty; together with the montains, the slopes may extend, on an average, to two hundred miles or upwards.

This range is divided in two unequal parts by the Lower Angara, which issuing from the lake of BAIKAL, in a northern direction, carries its waters to the lowlands, and discharges them, under the name of Upper Tunguska, into the Yenisei. That portion of the montain-range which lies to the east of the Lower Angara is called by the name of SIBERIA; and the same time exhibits the more alpine aspect. Close to the lake the montains rise with an extremely steep ascent, and consist of narrow and sharp ridges, which are divided from one another by short and narrow valleys, which are often so deep and close that the rays of the sun cannot penetrate to their bottom. They open southward to the lake and northward to the river Irkut, which runs parallel to the range from W. to E., and falls into the Upper Angara at Irikut, after a course of about a hundred miles. The channel which divides the valley of the Irkut from the Irkut may rise, on an average, to about 1000 feet above the lake, whose surface is 773 feet above the sea; in some parts it is lower, and in others, especially towards the western extremity of the lake, where the slopes of the BAIKAL range unite with those of the montains of SAKHAI. Granite, as well as red and yellow colour, is by far the most prevalent component of these mountains. They are covered with extensive layers of limestone, among which marble of a splendid whiteness occurs. Where the montains approach the western extremity of the lake they contain Russian grass, a kind of sedge, formed in immense colonies and forests, but not in a single place of any use. In the neighborhood lie vast lakes, in all different shades of blue and of green beauty, is met with. The road which leads from Irikut to Kuzhita passes over the montains between the western extremity of the lake and the upper valley of the Irikut River.

The Lower Angara, issuing from the lake, immediately enters a narrow gorge, which is soon contracted to about half a mile, and is then almost entirely occupied by the river. Here the stream, running in a rocky bed, is extremely swift, and forms almost continual rapids, which render the navigation extremely difficult. Several miles below this point the river widens out, but not until it has crossed the twenty-five mile range. The town of Irikut is 323 feet below the surface of the lake, being, according to the observations of Erman, only 116 feet above the level of the sea. The Angara consequently falls, in a course of forty miles, 321 feet; the mean of the fall per mile is therefore not more than 8 feet in each mile between the lake and the Irikut. Before the Angara reaches Irikut it has cut itself behind the granite formation of the montains, and has entered the sandstone formation, which hence extends to the north and west till it reaches the lowlands of SIBERIA at KOSOGOLO; the Angara, and at KOSOGOLO on the Yenisei. A soft fine grained sandstone lies on a conglomerate of granite, quartz, and feldspar, the pieces of which are mixed together by a fine sand-tome. The whole ranges through which this formation prevails is covered with hills of even aspect, and all covered with grass and trees. In that part of the country in all this extent lowers gradually towards the north, as well as towards the west, and Krasnojar is only 753 feet above the sea. Through this region the course of the Angara is contrary, the lakes on the left side of the lowlands, and the river gets its name to that of Upper Tunguska, where its northern course is changed into a western one, in which direction it continues to its confluence with the Yenisei, receiving not far from it the river Taiana from the east.

That portion of the BAIKAL MOUNTAINS, which extends between the lake of BAIKAL on the east, and the course of the Lower Angara on the west, and contains the sources of the Lena, is much more extensive, but less known. The highest point of it has been found to be 115° 42' lat. and 118° 42' E. long. The Lena flows in its upper course is 270 feet above the sea, and the gradually ascending mountains rise some hundred feet above it. The whole country, therefore, is much higher than that which separates the Angara from the Yenisei, and it sinks at the same time more slowly in its descent to the north and north-east. The surface of the Lena between the mouth of the Olekma and the town of Yakutat being so much elevated above the sea as the Yenisei at Krasnojar. On some of the highest summits, as on Aron-Aleut, not far from the north-western extremity of the lake of BAIKAL, innumerable low hills are found, which have the form of bee hives and are composed of loose pieces of rock, thrown in a heap together. The coherence between the pieces is so small, that the hills cannot be ascended unless with difficulty, and the most signal and imposing of these hills are the Burases lose their lives among them.

The BAIKAL Mountains contain much iron ore, which is worked in a few places to the north of Irikut. Not far from the north-eastern extremity of the lake of BAIKAL, innumerable low hills are found, which have the form of bee hives and are composed of loose pieces of rock, thrown in a heap together. The coherence between the pieces is so small, that the hills cannot be ascended unless with difficulty, and the most signal and imposing of these hills are the Burases lose their lives among them.

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In this mountain-region, one of the largest rivers of Siberia, the Lena, has its source. About 200 miles to the north of Irikut, it crosses the northern extremity of the lake of BAIKAL, and then runs in a north-west direction up to
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In maritime causes the defendants must find caution de judicio siste et judicatum siste.

The Scots law of bail in cases of crime, if it is not always explained, is at least thus far obvious; it is that a narrow compass, being almost altogether contained in the Acts 17 Geo. III. c. 6, and 39 Geo. III. c. 49. By the former, all crimes not incurring capital punishment are made bailable; and for clearing the method of finding bail, whether before or after imprisonment, it was enacted, that on such a warrant no security shall be demanded; if the judge or magistrate must, if the crime is bailable, modify the bail within twenty-four hours. In any event the highest bail demandable is laid down; but by 11 Geo. I. c. 36, § 11, the common bail must not be fixed by an accused to the judge, and by 39 Geo. III. c. 49, the judge or magistrate may extend the bail to 1200l. for a nobleman, 500l. for a landed gentleman, 300l. for any other gentleman, burgess, or householder.

BAIL, in civil cases, signifies the sureties who become responsible for the appearance of a defendant, arrested by legal process, to answer to the complaint made against him; and they are so called because antiently the defendant was delivered into the hands of the surety or sureties, who were bound to produce him at the time appointed for his appearance. By the statute of 23 Hen. VI. c. 9, the sheriff is compelled to admit all persons arrested by him in any personal action, or because of any indictment or information, on bail, unless he shall be proved by a complete and clear appearance; and if he refuse to take sufficient bail when offered, he is liable to an action by the party arrested.

Bail were formerly either common bail or special bail, a distinction which arose thus:—until the commencement of the last century, a party was discharged of process against his person actually arrested: and it was then discretionary in the court either to discharge him on common bail (that is, fictitious sureties, John and Richard, east and west) or to detain him till real sureties or a sum of money. But this discretion in the court was abolished by the 12 Geo. I. c. 39, which provided that no person should be held to special bail unless the demand amounted to 120l., over and above costs, which sum was now increased, by the 7th and 8th Geo. IV. c. 71, to 200l.; and for less than that sum no debtor can now be arrested and required to give special bail. In all cases where the defendant was not actually arrested, the antient fiction, stating that he was delivered into the hands of the surety, was applied in the Court of King's Bench to be the only mode of his effectually entering an appearance to the suit till the latest act for uniformity of process 2 Will. IV. c. 39, § 2, which provides that, for the future, the appearance of the defendant, instead of his being where he is or where his goods are, be entered by a memorandum that he be either appears in person or by some attorney to the suit instituted by the plaintiff, so that common bail is now entirely abolished.

In considering the subject of special bail we shall explain, 1. In what cases and in what manner special bail are rendered necessary; 2. Who may become special bail; 3. The mode of putting in bail and their justification; 4. The nature and extent of their liability; 5. The mode in which they may be discharged; 6. Proceedings on the bail bond, and against the sheriff.

1. In what cases special bail is necessary—We have seen that by a recent act a defendant can only be arrested and held to special bail (which are convertible terms) where the plaintiff's demand is not proved or certain. To satisfy the court of this fact, an affidavit must be made by the plaintiff or his wife, or some competent third person, stating explicitly the amount and nature of the debt, and deposing positively to its being unpaid. If the claim consists of mere damages for a tort or breach of contract, not a debt in money numbered, the defendant cannot be held to bail on the plaintiff's affidavit without a special order of the court or a judge. The courts have been long in the habit of making such orders in actions of special damage for personal injury, for the purpose of detaining the defendant for the conversion or detention of the plaintiff's goods. If the plaintiff's demand is for a penalty in a deed
or contract, (e.g. if the debt be 100L. and a bond is given for 200L. with a condition that it shall be void if the debt of 100L. is paid) he cannot arrest the defendant for the penalty (the 200L.), but only for the debt (viz. the 100L.) secured by it; and if there be mutual accounts between the plaintiff and the defendant, the balance is the sum for which alone special bail can be required. The defendant cannot be arrested in an action on a penal statute, since it is presumed, till a verdict has passed, that he is innocent of the offence, the only person who can be held to bail for a cause of action for which he has been arrested before.

When a plaintiff intends to proceed by holding the defendant to special bail, a capias is issued against the defendant, commanding him to appear before the court and keep his peace, and if he has given bail or made a deposit with the sheriff according to law. The amount of the debt which has been sworn to by the plaintiff is indorsed on the back of the writ as an authority to the sheriff for the amount of bail or deposit which he is to require. The defendant, instead of giving bail, may, under the 43 Geo. III. c. 46, deposit with the sheriff the sum of money to, with 10L. for costs, on receiving which deposit the sheriff is bound to discharge him. If he does not make this deposit, the statute, he either main in the sheriff's custody, or is discharged on giving an attorney's undertaking to appear according to the requisition of the writ, or on entering into a bail-bond to the sheriff with two or more sufficient sureties, the condition of which is that the defendant shall duly appear and answer in future to the proper suit. These bail to the sheriff are called bail below, in contradistinction to the special bail or bail above, of which this article mainly treats: the condition of the bond thus given by the bail below can only be satisfied either by the defendant being acquitted after verdict, or by the plaintiff on the day on which the sheriff is to return the writ, or by bail above being duly put in and perfected for the defendant, in the manner which will be afterwards explained.

3. The qualification of special bail is that they should be householders or freeholders. A peer of the realm, a member of the House of Commons, a servant in the king's household, liable to be called on to attend the king, cannot become bail, all such persons being excluded from the process of courts. It is a rule of the courts that no attorney shall become bail, which rule has been extended to keepers of prisons and turnkeys: unless there is a bankruptcy and insolvent debtors are disqualified from becoming bail by law, and subject to custody. The same rule applies to persons who have suffered their parents or near relations to receive parochial relief have been rejected. Foreigners cannot become bail merely in respect of property abroad, and according to the same rule, it seems that British subjects may become bail in respect of property abroad belonging to such British subjects.

3. Of the mode of putting in or recording bail and their justification.—Special bail may be put in by the defendant himself or his attorney in pursuance of his undertaking, or by the sheriff or his bailiff in order to their own indemnity; and by the 4th and 5th Will. and Mary, c. 4, they may be put in either before a judge in London, before a judge of assize in his circuit, or before a commissioner appointed to take bail by the judges of the several circuits in their respective court. When bail are put in, they are required to make a formal acknowledgment, called a recognizance of bail, that they owe to the plaintiff the sum of money double the amount of the debt which is the subject of the action, or 100L. beyond the debt if it exceed 100L., to be levied upon their property, unless the defendant, if defeated in the action, pays the debt and costs or renders himself to prison; or, in case he fails to do either, unless they, the bail, pay the costs and, if due, to his own harm, or losses. If the plaintiff is dissatisfied with the sufficiency of the bail, he is excepted to them by entering an exception in a book kept for that purpose at the judge's chambers, and giving notice thereof in writing to the defendant's attorney. The bail are to stand until the judgment is given, preparatory to which a two days' notice is given of the time of justification, (which may either be before a judge in chambers, or in open court, and in a country cause by affidavits sworn in the country,) specifying the Christian and surnames of the bail, and the street or place and the number (if any) where each bail resides, the object of the notice being to give ample information to the plaintiff and his attorney to enable them to inquire into the circumstances of the bail. In order to justify their sufficiency, each bail is required to swear that he is worth double the sum sworn to by the plaintiff in the action, and over and above his debts, and costs, and charges of losing the plaintiff aforesaid, can pay the debt and costs of the action and to pay the plaintiff an additional sum of money, that if the plaintiff shall be called on to appear in the action, they will answer for the same as old as the time of Charles II., when Justice alludes to it, and it is much to be regretted that it still continues to a considerable extent. Personating another person as to render him liable as bail, is made a capital felony by the statutes 21 Jac. I. c. 26, and 4th and 5th Will and Mary, c. 4.

4. Of the extent of the liability of bail.—We have seen that the bail enter into a recognizance, that if the defendant be made either by bail put in by the plaintiff, or costs recovered, or render his body to the process of court, and therefore if the plaintiff proceed in his action in due time, for the cause of action expressed in the process, and regularly recover judgment, the bail are in general liable to answer the plaintiff for the debt or debt above, or excessive as to the extent of the sum sworn to by the plaintiff, and the costs of suit, not exceeding in the whole the amount of fine recongnizance.

The rules in which the bail are discharged.—The bail are discharged either by performing the recognizance, or by some matters which operate to excuse them from such performance. The most ordinary mode of performance is by rendering the defendant to prison. This may be made either by bail put in by himself, or by bail put in by the sheriff, or by the bail to the sheriff for their own indemnity; and as the only object as the servant of the defendant's person, bail merely put in and who have not justified, are sufficient for the purpose of surrendering the defendant to custody. The same rule applies to persons who have suffered their friends or near relations to receive parochial relief have been rejected. Foreigners cannot become bail merely in respect of property abroad, and according to the same rule, it seems that British subjects may become bail in respect of property abroad belonging to such British subjects. As to the special circumstances which render the bail from their obligation, the general rule is, that wherever by the act of God or by the act of the law a total impossibility or temporary impracticability to render the defendant to prison, the defendant has the seal of the court. The bail from the unforeseen consequences of having become bound for a party whose condition is so changed as to put it out of their power to perform the alternative of their obligation without any default of their own. Thus, if the defendant is in a penal district, the receipt of the capias and satisfaction against him, or before that time he is made a peer of the realm, or becomes a member of the House of Commons; or if he becomes bankrupt and obtains his certificates, or be discharged under an act of Parliament; or, if he be arrested, and, without being impacted into the King's service, or be sent out of the kingdom under an alien act; or if the plaintiff is guilty of some default, as if he do not proceed in due time or make further satisfaction; or if he take a security from the defendant, and thereby reserve himself from the consent of the bail,—in these cases the bail are excused from performance of their obligation, and will be relieved by
BAIL IN ERROR are securities required to be given by a defendant at common law who sues out a writ of error to reverse a judgment which has passed against him; and the party suing out the writ of error, proves such effect, and if the judgment be affirmed, shall satisfy the debt and costs recovered, together with all such costs and damages as are awarded by reason of the delay of execution for which writ of error is delayed; and without the giving of bail shall do it for him. By the common law, no bail in error is required, and a defendant might therefore delay a plaintiff of his execution without giving any security to prosecute his writ of error, or to pay the debt and costs if the writ failed. This inconvenience was remedied by the statute 3 Jac. I. c. 8, which required bail in error only in certain particular actions, and by the 13th Car. II., stat. ii. c. 2, and the 16th and 17th Car. II. c. 8, which rendered it necessary only where the judgment was after verdict, and not in cases where the defendant suffered judgment by default. And accordingly it became the common practice of defendants sued upon bills of exchange and other simple contracts, and having no real defence, to delay the action, while the plaintiff was bringing a writ of error, in which case they were under no obligation to find bail. These delays have been effectually suppressed by a late statute, the 6th Geo. IV. c. 96, 1, introduced by Sir Robert Peel, which requires bail on every writ of error, and, if not given by defendant by default or after verdict, unless it is otherwise ordered by the court or one of its judges. The bail should be put in within four days after delivery of the writ to the plaintiff. Clerk of the Rolls. If the plaintiff in the original action may treat the writ of error as an issue, and proceed to take out execution. The recognizance is taken in double the sum recovered by the judgment. The bail must justify, if required, and may be opposed by motion of either party before the court that the defendant is entitled to bail for his principal: nor are they entitled to relief if their principal becomes bankrupt. (See Todd's Practice, ch. 44 (5th ed.)

BAIL IN CRIMINAL CASES are the securities given to the court by a party accused of having committed an offence; either by a court or magistrate to be at liberty till trial, on giving security for his due appearance. By the common law, all accused persons, even though charged with heinous felonies, were allowed the privilege of bail, till the crime of murder, and other felonies, were afterwards made uninsurable, by a statute. Further regulations were introduced on the subject by statutes of Henry VI. and of Philip and Mary, which contained many nice distinctions as to the offences which were bailable, and those which were not so. But these statutes are now repealed by a general law, the 7th of Geo. IV., c. 64, 1, introduced by Sir Robert Peel, which precisely defines and marks out the powers and duties of justices of the peace as to bailing parties charged before them with felony. By this statute, where any person is taken on charge or suspicion of felony before one or more justices of the peace, and the charge is supported by positive and credible evidence of the fact, or by such evidence as, if not explained or contradicted, shall, in the opinion of the justices, be sufficient to raise a strong presumption of the guilt of the person charged, such person shall be committed to prison to take his trial. But if only one justice is present, and the whole evidence given before him shall be such as neither to raise a strong presumption of guilt, nor to warrant that the person may be charged with felony; the justices shall order the party to be detained till he is taken before two justices at the least; and where such two justices, or any two justices before whom a party may be charged in the first instance, shall desire to raise a strong presumption of guilt, and to require the party's committal; or if such evidence shall be adduced on behalf of the person charged as shall, in the opinion of the justices, weaken the presumption of his guilt, but shall notwithstanding appear to them sufficient ground for a judicial inquiry, the party charged shall be admitted to bail.
by such two justices. The justices, however, are not required to hear evidence on behalf of the party charged, unless it appear to them conducive to the ends of justice to do so. Before they adjourn from the bail, they must first hear any person either with or without bail, if they are bound to take the examination of such person, and the information of those who know the circumstances, and to put the same into writing, and to subscribe their names to the bailment and examination, and deliver the proper officer of the court in which the trial is to be, before or at the opening of the court. By the effect of this statute, the power of a single justice of the peace to take bail for felony is now done away, and such bail can only be taken by two justices. This is a direct examination by one justice, or on an original examination by themselves. With respect to misdeemanaors, parties charged therewith are in general entitled to be admitted to bail, which may be taken by one justice, or by a lecture of two justices. But in the above act, any justice, on taking bail, or committing a person for misdemeanor, is required to take the examinations in writing, and certify the bailment, and deliver the examinations and recognizances to the proper officer of the court before trial, in the same manner as in cases of felony.

The aforesaid act applies only to the taking of bail by justices of the peace, and has in no way affected the authority of the superior courts of law to admit persons to bail. The Bail Act, 21 Geo. III., c. 29, Common Pleas, and Exchequer, at any time during term, and the Court of Chancery, either in term or vacation, may, by the common law, award a habeas corpus to bring up any person committed for a crime under the degree of felony or treason, and may on motion therefor declare that the imprisonment is illegal, or bail him if it appear doubtful. The authority of the chancery is said, indeed, to extend to cases of felony; that of the other two courts is confined to misdeemanaors. The Court of King's Bench has a more extensive authority; that court, or any one of its judges, in exercising such authority, may bail a party committed for any crime whatever, even for treason or murder; and they will in general exercise this authority in cases not capital, and also in capital cases, where the circumstances raise a presumption of the party's innocence. But neither the court nor any of its judges, in exercising such authority, can commit a person to banishment, or suffering imprisonment under the sentence of a competent court for crime, or for a contempt of its authority, unless indeed it is plainly made to appear to that court that they are not guilty of the offence, or unless a prisoner is at danger of losing his life from the effects of continued confinement.

And it seems now to be considered as settled that the Court of King's Bench has no authority to admit to bail a person committed by either House of Parliament so long as the Parliament is sitting; but neither the court nor any of its judges, in exercising such authority, can commit a person to banishment, or suffering imprisonment under the sentence of a competent court for crime, or for a contempt of its authority, unless indeed it is plainly made to appear to that court that they are not guilty of the offence, or unless a prisoner is in danger of losing his life from the effects of continued confinement.

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BAILEUL, a town in France, in the department of Nord. It lies on the road between Lille and Dunkerque, seventeen miles from Lille and twenty-nine from Dunkerque. It is 157 miles from Paris, N. or N. by E., very near the Belgian frontier, on the little river Belbece, which flows under the town. It is a busy manufacturing place, with a population, in 1832, of 3,262, and 8,015 for the town itself. Twist, tape, lace, silk, linen, towels, and napkins, are among the productions of its industrious population; also pottery, especially the imitation of the old English Potteries. It is on a road leading towards the neighbourhood. This town has suffered much by fire, having been burned by accident or by an enemy, five or six times: the last time was in 1821. It was once fortified, but is now an open town: 30° 45' N. lat. 3° 44' E. long.

BAILLIAGE, a French term equivalent to bailiff, a district or portion of territory under the jurisdiction of an officer called a bailiff. This term was more especially appropriated to certain sub-governments of Switzerland, which at the time Coxe wrote his travels were of two sorts: the one consisting of certain districts into which all the inhabitants of the same race were divided, and over which a particular officer called a bailiff was appointed by the government, to which he was accountable for his administration; the other composed of territories which did not belong to the cantons, but were subject to two or more of the cantons by consent or appointment. The bailiffs of this last sort of bailiages, when not restrained by the particular privileges of certain districts, had the care of the police, and under limitation the jurisdiction in civil and criminal causes. He also enjoyed a stated revenue, arising in most places from the custom of the administrations of executors or mal-administration an appeal lay to the cantons to which the particular bailiages belonged. (Coxe's Trav. in Switz., 4to. Lond. 1774, vol. i, p. 30.) These bailiages annually formed part of the Milanese. Their names were: Massino, Balbe, Lonzone, Lugano, and Val-Maggia. Uri, Schwyz, and Unterwalden possessed the three bailiages, Bellinzona, Riviera, and Val-Bremo, all of which had also been dismembered from the Milanese. These bailiages were ceded to the cantons, in 1612, by Maximilian Sforza, who was raised to the ducal throne by the Swiss, after they had expelled the troops of Louis XII. and taken possession of the duchy. Francis I., successor of Louis, having recovered the Milanese, undertook the conquest of Switzerland. He purchased the friendship of the cantons by confirming their right to the ceded territory; a right which the subsequent Dukes of Milan were too prudent to dispute. They were finally confirmed by the house of Austria. (Ibid., vol. ii., pp. 139, 141.) It was in the year 1827, that the Swiss, under the direction of the cantons, purchased the friendship of the Swiss, with the French, and entered into the Swiss, with the French, and entered into the


In 1802, when Bonaparte, as first consul of France, remodelled the constitution of Switzerland, and increased the ancient number of its cantons to eighteen, that of Tessin was formed out of the Italian bailiages; an arrangement which was afterwards confirmed by the treaty of Paris, 30th of May, 1815, and confirmed in the Helvetic Diet of 1815, March, 1815. (See the Montevideo for 20th Feb. 1803 and 22d May, 1815.)

BAILLIE, MATTHEW, an eminent anatomist and physician, was born in Scotland on the 27th of October, 1764, and is of the lowest class. His father was the Rev. James Baillie, at that time cler- gyman of the parish of Shotts, and his mother, Dorothy Hunter, sister of the celebrated anatomists William and John Hunter. Soon after his birth his father was removed to Scotland to have charge of his health, and successively to that of Hamilton, at the school of which place young Baillie acquired a character both for industry and talent. His father having been elected professor of divinity in the University of Glasgow, his education was carried on in that place. During the three years of his attendance there the first two were devoted to the Latin and Greek classics, and the third to mathematics, to which he applied diligently; at the same time he attended logic, and the class of moral philosophy, at that time taught by Dr. Reid. Though originally inclined to adopt his father's profession, or to enter the bar, his uncle, Dr. William Hunter, laid out such inducements as determined him to choose the medical profession. This celebrated individual, at that time the most eminent teacher of anatomy in London, was desirous of superintending the education of his nephew in that part of the subject which was only partially practised in, in order to obtain a degree of doctor of medicine from the English universities, it was necessary that part of his time should be spent at Oxford or Cambridge. Measures were accordingly taken at Glasgow for procuring for him an appointment in that university. On the 10th of March, 1823, he was appointed the professor of the University of Glasgow. The loss of his father at this time, and the consequent diminution of the family income, rendered such assistance very desirable. It was at last obtained, and in March, 1823, he was appointed to the chair of anatomy in the University of Edinburgh, with a salary and house. This letter, asking advice from his uncle as to his studies and conduct on his first entrance into life, is highly creditable to him: it displays good sense, correct principle, and a degree of tender feeling towards his mother and sisters, which he continued to exhibit throughout the whole of his and their lives.

On his way to Oxford he visited London, and for the first time saw his distinguished uncle, from whom he received the most munificent and liberal advice, which he followed throughout his entire year at Oxford. But subsequently he visited the university only at term time, spending all the intervening periods in London with his uncle, whose lectures he attended, as well as those of other eminent teachers in other parts of the metropolis. Two years after this he commenced his studies in London, he became a teacher in his uncle's anatomical theatre in Great Windmill Street, in the capacity of demonstrator. About a year after this time Dr. William Hunter died, and bequeathed to his nephew the sum of £1000 a year. Baillie, a short time after, received £500; and this was his intention to leave him but little money, as he had derived too much pleasure from making his own fortune to deprive him of doing the same.

The eminence of his uncle's proved a spur to Baillie to sustain the character of the family. He followed their example of indefatigable industry and unremitting diligence in investigating the healthy structure of the human body and its functions, as well as the deviations from this in the various morbid structures which are produced by disease. This industry required proved the foundation of his future usefulness and fame. From his own experience he always contended for the necessity of a minute acquaintance with anatomy, for the successful practice of medicine. He also maintained that the importance of medical science is due to the knowledge of the functions of the different organs of the body. 'It is impossible,' he states in his introductory lecture, 'for men to examine the structure of an animal body, without reasoning about the functions of the parts, and that the study of the latter is of the utmost importance in the preparation of doctors.' He took every opportunity of preserving morbid structure, and thus formed a museum, inferior indeed to that of the Hunters', but of great value, which now enriches the College of Physicians of London. This collection was literally almost to this body by Baillie during his life-time, along with £600, to keep it in a

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He was remarkable for the considerate attention which he paid to the feelings of his professional brethren, more particularly to the younger members of the profession. The consequence was that he never lessened the confidence of the patient in his ordinary attendant, whilst he himself acquired the good will and esteem of all whom he met in the line of his profession. In 1790 he married Sophia, the second daughter of Dr. Denman, at that time a very eminent accoucheur in London. Previous to his appointment to St. George's Hospital, he had enjoyed numerous opportunities of acquiring a knowledge of the peculiarities of the science, as well as of the powers of reasoning, and of the natural powers of observation, aided by his clear perception and correct reasoning powers, soon enabled him not only to become equal to others, but highly distinguished for his accuracy of expression. He lived but one day in the living, in what is technically termed the diagnosis of diseases. Respecting his attainments in this way, he spoke with great modesty and truth. 'I know better, perhaps, than another man, from my knowledge of anatomy, how to discover a disease, but when I have done so, I do not know better how to cure it.' This, however, was scarcely possible; for a knowledge of the particular disease with which the physician has to contend is the first step towards its correct treatment; he, therefore, who knows precisely what disease the patient is affected, is most likely to succeed in curing it.

To render the collections of his uncles, as well as his own, useful to the public, he undertook an examination of all the manuscripts published, with his Morbid Anatomy, 'a work which, whether we consider the living manner in which it is treated, has been justly estimated as one of the most practically useful and valuable acquisitions to medical science.' (Wood.) It was soon translated into all the languages of Europe, and in 1790 was printed by Professor Soemerring. About four years after the appearance of this work he began to publish engravings for its illustration; these, as well as the work itself, will remain a lasting memorial of the real industry, and the disinterested character of the author. His papers in the Transactions of the Royal Society (of which he was a fellow) and in different medical periodicals: these are now collected in the edition of his works, edited by Mr. Wardrop. He likewise edited William Hunter's work on the Anatomical Urethra (left in MS.), to which he made some additions.

To a second edition, published in 1797, of his Morbid Anatomy, he added the 'Symptoms' of the different morbid lesions he described in it, so far as they were known; but scarcely anything further can be added to what is already known, in the habit of keeping an account of the dissections of interesting cases, some of which were afterwards published in the collected edition of his works. In 1799 he removed his office of prosector in the Medical Society's Hospital, and also his anatomical lectures, his time being entirely occupied in the practice of his profession.

The progress of a physician is proverbially slow; and though no man laboured more in early life than Dr. Baillie, and no one ever commenced under more favourable circumstances, he was nearly forty years of age before he found himself fully established in practice. His progress from this time was rapid and his success complete. This was much promoted by his anatomical knowledge, and also by his being known as the relative of such distinguished men as the Hunters; his marriage with the daughter of Dr. Denman greatly assisted in introducing him to practice. Dr. Pitcairn, having been obliged to relinquish his practice and retire to a warm climate, recommended Dr. Baillie to his patients; and though Dr. Pitcairn was able to return partially to discharge the duties of his profession, the death, which occurred in 1809, of this able physician, made a most favourable opening for Baillie. On this accession of practice Dr. Baillie removed from Windmill Street to Grosvenor Street.

Dr. Baillie added to his great facility in diagnosing a knowledge of the proper effects and extent of the powers of medicines. He excelled in the art of delivering his opinion on a cause, being clear, direct, and plain, his language simple, and remarkably free from technicalities. His manner was natural and unassuming, yet decided and impressive. He was the same to all persons and on all occasions: his benevolent principles led him to deprecate all violence in his mode of addressing the sick.
and chicken, and, above all, bacon, are easy of digestion, and fit for delicate stomachs or convalescents. Most commonly, animal food that is very fat, or much salted, or fried, is difficult of digestion, and should either be eaten very sparingly, or should be altogether avoided. Young and white animal food is in general more difficult of digestion than that which is brown and of middle age. (Bailly’s Posthumous Works, p. 189.)

BAILLY, JEAN SYLVAIN, was born at Paris, Sep- tember 13, 1736. His father and grandfather were artists of note. His father was a watchmaker, and the crown, or garde des tableaux, and was besides the author of many forgotten poems, principally parodies. The subject of our memoir appeared himself early to both the paternal pursuits, and composed some tragedies, which Larousse (a successful writer) is said to have approved of, but without recommending any further attempts, that is, civilly hinted to be wrong.

An accidental acquaintance formed with Lacaillé, at the house of a common friend, was Bailly’s first motive to attach himself to astronomy. The first fruits of the instruction which he received from this great master were some lunar observations, presented to the Academy in 1762. He was received into this body in 1763, and had previously made good among the various calculators of the orbit of the comet of 1758, his observations being considered as among the most accurate of all. He began to turn his attention to the theory of the satellites of Jupiter. This was the subject of the prize offered by the Academy for 1764; and Bailly, by applying the recent discoveries of Clairaut, which were employed in his lunar theory, was enabled to deduce from the equations of gravitation several of the inequalities observed by Bradley and Wargentin. The prize was gained by Lagrange, who, by a new and more powerful analysis of his own, carried the theory farther, but for which his immediate predecessors placed him among the successors of Newton. His essay Sur l’horare des Satellites de Jupiter was published in 1766. In 1771 he wrote a curious and original paper on the light of the satellites of Jupiter, which he had measured with the endeavor of the refracting telescope. This work must be diminished in order to make these bodies disappear. In 1775 he published the first part of his history of astronomy, of which we shall presently speak. The whole of this publication was completed in 1787 by the appearance of his Traité de l’Eclipses, published immediately after the author had attained the post of assistant to the chair of Astronomy in the University, and himself the only academician whose bust adorned their library during the life of the original.

We shall complete the references to the scientific life of Bailly by mentioning his reports to the Academy of Sciences on animal magnetism (1784), and on the plan of a new Hotel-Dieu (1756), as well as his doges of Charles V., Molière, Corneille, Lacaillé, Leibnitz, Cook, and Greasse.

The first tendency of both the French revolutions has been the publication of letters to the National Convention in the management of public affairs. At the election of the States-General in 1789, Bailly was the first chosen for Paris. He had previously acted as secretary to the assembly of electors, and this deliberation was kept closely watched by the two great journals. Lalande says, ‘his talent in writing was well known; the interesting reports which he had made on animal magnetism and on the new hospital had caused a sensation among the public; his austere and rational appearance made one think of a saint.’ He was chosen president of the Tierce-état (June 17, 1789), the day after that body declared itself a national assembly. He held this office during the memorable sitting at the Jeu de Paume on the 9th, and at the church of St. Louis on the 22d, during the personal attempt of the king to disperse the assembly; at the consolidation of the three orders on the 27th, and till July 2d. It might be the national representatives felt that their president had not the energy required by the state of things: the short but decisive answer to the king’s message to disperse came from Mirabeau, not from Bailly. But he appears to have been their organ of conciliation in the precious attempt to unite the three orders; and his address to the clergy, on the abdicating the Tiérce-état (which they did before the nobles on the 22d), is a skilful compliment. His conduct pleased the people of Paris, who elected him mayor of their city on the 15th of July, being the king, and the king, in the fall of the Bastille. On presenting the keys of the town to Louis XVI., the new mayor thus addressed him: ‘Sire, I bring your Majesty the keys of your good town of Paris; they are the same which were presented to Henry IV.; he required (rejoins) the people to inform me if you have regained its king.’ At this period Mirabeau, Lafayette and Bailly were the three most marked men of the revolution; and Mignet calls the first the tribune, the second the general, and the third the people of Paris.

During the period of his mayorality, no access to any violent measure distinguished Bailly’s conduct; the most remarkable proposition he made to the Assembly was that for the celebration of the taking of the Bastille (June 3, 1790). He completely satisfied neither extreme, being charged with devotion to, and contempt of, the royal cause, by the two parties. We must pass over the events of his life until we come to that of the 17th of July, 1791. The attempt to escape on the part of the king had irritated the republican party, and the government had adopted a different colour to their violence. A tumultuous assembly, headed by all the chiefs of the Jacobins (as they were afterwards called), assembled in the Champ de Mars to petition for the condemnation of the king. ‘Two insurrections they took for spies were murdered, and on their heads placed.

The insurrection became alarming; Lafayette came again to the Champ de Mars at the head of 3000 National Guards. Bailly accompanied him, and caused the dragoons rouge to take an active part. The Jacobins surrendered in the manner required by law, but would not retire, and crying ‘A bas le dropeau rouge!’ assailed the Guard with stones. Lafayette caused them to fire in the air; the crowd was not intimidated, but recommenced its attack; then, forced by the danger, the Jacobins surrendered. But this discharge was real and murderous. The frightened multitude fled, leaving many dead on the field; the riot ceased, order was restored, but blood had flowed, and the people never forgave either Lafayette or Bailly. The late royal family might have descended to posterity as the men who checked the progress of the revolution at the moment when its legitimate end had been obtained.

The measure of the 17th was approved by the Assembly, but Bailly offered his resignation on the 19th of September, and finally relinquished the mayoralty on the 16th of November. He either travelled abroad, or retired to Nantes, according to different accounts, till towards the middle of 1793. During this time he compiled memoirs of the Revolution and its causes, which were published in 1804. In June, 1791, on the 23d, after the 17th of July, 1793, made Bailly feel that a man so much the object of envy to the ruling faction as himself could no longer live openly in France. He wrote to Laplace, who had retired to Melun, wishing to know whether he might not come there. Melun answered that he could not be sighted; but, in the meanwhile, the insurrection of the 31st of May established the armed power of the Jacobins, and Laplace wrote again to Bailly, warning him not to come, as a detachment of the revolutionary army was in the neighborhood. In this imprudence to venture. He was recognized by a soldier in the streets, seized, and conducted, after some delay, to Paris. He was charged as well with the affair of the 17th of July already alluded to, as with conspiring in favour of the late royal family. Being produced as a witness on the trial of Marie Antoinette, he denied all accession to any scheme.
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Justice, the peculiar circumstances will hardly admit as a seizure.

Bailly had mentioned, as a discovery of his own, some phenomena connected with the satellites of Jupiter. Against this Lalonde put in his own claim, and some controversy ensued, which ended by Bailly, who did not give up his phenomena, asserting in his History, that statement of the point in dispute, accomplished by the necessary references to both sides of the question. This might have been a warning to be cautiously fair towards Lalonde for ten pages at least, yet within that limit the name of the author is entirely passed over by Bailly, who undertakes his useful life. In describing the celebrated process for settling the return of Halley's comet, no name is mentioned except that of Clairaut, though it was Lalonde who suggested the trial, and worked most for the facts in bringing Clairaut with him without which he declared he would not undertake the work.

The task of Lalonde required both theoretical and practical knowledge of every detail. Clairaut was not the only man in France who was equal to his part of the work, but Lalonde was the only man who dared to undertake his share. The eyes of all the scientific world were fixed with eager curiosity upon the process, and Bailly himself had been employed upon the same orbit in a different way. Whatever move- ment may be just in this case, the authority of Bailly is very suspicious. Authority may be just in this case, the authority of Bailly is very suspicious. We might cite other grounds, but this is sufficient to raise the doubts which we wish to raise.

We have dwelt much upon the character of Bailly, as an historian, but his many works, English and French, are unrivaled note of praise upon the subject. When his History of Astronomy appeared, the elegance of the style, and the plausibility of the hypothesis, caught the whole world. We doubt not that Voltaire regretted in his heart the work he had refused to publish, by his repugnance against his history, before his political life began; the arduous employments which fell thic upon him at the very first moment when a plebeian could be called into public life, and the furious anger which he had the honour to excite among the savages; the mention of so many among presumptions that have been no common character, even among the distinguished.

The character of M. Bailly as a writer is that of one of the most interesting and elegant among many. On the history of science no man has treated so as to approach him in the agreeable qualities of style. But his whole system is built upon surmises or conjectural interpretations of fact. He imagines that he sees, in the early science of all nations, rather than the results of some complete system, than one in process of formation, the processes, the names of which is now lost, is the common original of the Egyptian, Chaldean, Hindoo, and Chinese astronomy.

[See Astronomy, vol. ii. p. 530.] On this supposition he speaks most agreeably; and, even if he has observed the very same principles or hieroglyphics in his history, he has reduced them into a system, and, according to his own words, he has been able to follow the process of the planets in their paths.

His plan to gather at first in Asia, about the parallel of latitude 49° N. This notion led him into a correspondence with Voltaire (Lettres sur l'Organe des Sciences), where Bailly and Voltaire exchanged their views upon the subject. This correspondence was of considerable merit, especially in its discussions with the transmuted commerce and the daily occurrences of life renders great practical importance. The whole English law of baillament rests upon the Roman law, from which it derives its origin, and is the basis of all law in other countries. It is a species of bailment that has been established by the law of England respecting baillament; under some of which the cases where such occur in practice will in general be comprehended. The most common cases are the following: First, a simple deposit of goods to be kept by the bailee without re-

* He was examined by a lady M[dame] Lucinde, see Companion to the Astronomer for 1833, article 'Halley's Comet.'
necessity. In cases of this kind, the main obligation imposed upon the bailee is faithfully to return the goods upon demand; and he is not liable for the loss or injury of the property deposited with him, unless it has been occasioned by willful abuse, or such gross negligence as to be evinced in disregard of being liable, because gross negligence in breach of a contract, or to the deposit is held to be presumptive evidence of fraud, when applied to cases of trust. This principle is adopted by Lord Holt in the case of Cogges v. Barnard (2 East, 133); and it has subsequently been confirmed by the courts. Gross negligence bears no nearer resemblance to fraud, as to be often equivalent to it in its effect upon contracts. The measure of damages required from the bailee in cases of mere deposit, or, as they are sometimes called, great trust, is much less severe than that which has been imposed for mere negligence. If, for instance, his house is on fire and he saves his own goods, leaving those deposited to be burned, though he has time and power to save both, he will be bound to restore the value of the one only. If, on the other hand, he is only able to save one of them, it is a libel for him to claim the one only. If, and if he does so, he is not answerable for loss or damage, however careless or negligent he may be in his general habits. If, says Lord Holt, in the case above cited, 'the bailee is bound to keep the goods safe in every respect. If the goods are stolen, together with his own, he shall not be charged, because it is the bailee's own folly to trusting such an idle fellow.'

Mandatum, or commission, which is a delivery of goods for the purpose of having them carried from one place to another, or of having some act performed upon them, for which the service is to receive no reward or payment, and from which the depositor alone is to derive benefit. The distinctness of the authority of the bailee as a mere deposit, or a mere agent, is that the former implies some action to be done by the bailee, whereas the latter simply relates to custody. Hence arises a difference in the nature of the duty imposed, which is not merely to return the property to the owner, but to execute the commission at his own expense. When a person is merely asked to carry an article, he is not answerable for its loss or injury, unless he has acknowledged the article to be in his custody and possession, and has neglected to deliver it. In such a case, the bailee is answerable for the loss only, unless he has shown due diligence to prevent the loss, and such a high degree of negligence as to be equivalent to fraud.

3. Commodatum, which is a loan of goods to be used by the person to whom they are lent or delivered. In this case, as the bailee alone derives a benefit from the transaction, a proportionate increase of obligation and responsibility is cast upon him. When a car, a book, a carriage, or any other article is lent for the accommodation of the borrower, he is bound to re-deliver it specifically in as good condition as it was in when delivered to him, subject only to ordinary wear and tear. The borrower is not answerable to the lessor for the loss or injury of the article borrowed, that has been taken as much care of it as of his own property; it is his duty to return the utmost care of a careful and vigilant man. Thus, if the agent negligently a violent temper blows down the stable and kills the horse, or if the agent negligently allowed the violence of the tempest only, I should not have been liable. Even if the goods be stolen from a borrower, he must indemnify the owner, unless he has observed the greatest care, and used every precaution to prevent the occurrence. Thus, if I lock up a borrowed horse in a stable, and robbers break the door and steal him, I am not liable; but if I or my servants neglect to lock the stable-door, and thus give an opportunity to the robbers, I am responsible, as my negligence has occasioned the loss. This instance will also serve to illustrate a distinction between a loss by robbery and a loss by theft, which is fully adopted into our law from the Roman law: if I neglect to lock the stable-door, in consequence of which the horse is stolen, this is a case of the owner's negligence ; if robbers break the door, and take the horse, this is a case of robbery or overpowering violence which, no care of mine could prevent. 'Adversus latrones,' says the civil law, 'parim profect custodia; ad

V. Vadium, which is a delivery of goods in pledge or pawn as security for some debt or engagement. In this case a benefit is derived by each party to the transaction, the pawnie by having a profit on his loan and also a security for it, and the pawnor by having the advantage of goods or money, whereas, in the other cases, the Initialize is to be taken ordinary care of the property while in his custody, such care, namely, as a careful man bestows upon his own property. He is not bound to use the most exact diligence, as in the case of a borrower for use; but he is responsible for less than gross neglect. As the presumption is, that a bailee does not use ordinary diligence who suffers the goods deposited with him to be taken away by stealth, it follows that if they are simply stolen from him, he is liable to account for them to the pawnor unless he can show that the loss was in some way due to the pawnor's default. If the pawnor was in default; but upon the distinction above mentioned between a theft and a robbery, he will not be liable if he should be forcibly robbed without any misconduct or neglect on his part. Also in case of his house being burnt down accidentally, the borrower is liable, for he was not answerable for the value of the goods pawned if he has used ordinary care to prevent the occurrence of such an accident. The pawnor is at liberty to use the goods pawned, provided they are of such a nature as not to be deteriorated by his so doing; thus, if he uses a horse to pull a cart, or a cow to graze, it is not considered an answerable for the value of the goods pawned and, as the case of a horse or cow, he may moderately use the horse, and take the milk of the cow for his own convenience.

V. Locatum. This species of bailment, which is of the most extensive importance in the common affaires of life, is the hiring of an article, with a payment or remuneration made either by the bailee for the use of it, or by the bailor for work and service to be performed on the article delivered to him. For more closely understanding the relative rights and duties of the parties to this complicated kind of bailment, it may be conveniently divided into two parts: 1. A bailment of goods to be used by the hiree for his own use, to be the bailor to the owner, who contracts called locatio rei; and, 2, A delivery of goods for the purpose of having work done upon them, or of being safely kept for the owner, and in each case for a reward or payment to be given or made to the
BAINBRIDGE, BAINBRIDGE, CHRISTOPHER, archbishop of York, and cardinal-priest of the Roman Church, was born at Hilton, near Appleby, in Westmoreland, and received his education at Queen's College, Oxford, from which he became provost in 1495, and was created Doctor of Laws about the same time. He was afterwards a liberal hirer, as he was appointed almost at once Dean of York; in 1505 Dean of Windsor; and, in the same year, Master of the Rolls and one of the king's privy council. In 1507 he was advanced to the see of Durham, and was translated the next year to the archbishopric of York. The country had been very intimate with Morton, Archbishop of Canterbury, and shared in that prelate's sufferings during the usurpation of Richard III., after whose death his affairs took a more prosperous turn. He was appointed almost at once Dean of Henry VII., and employed by that prince on several embassies to the Emperor Maximilian, Charles VIII., King of France, and other potentates of Europe. All this, however, relates to Christopher Bainbridge, but to Christopher Urwyke, who had been his predecessor as Dean of Windsor.

Bainbridge distinguished himself chiefly by his embassies from King Henry VIII. to Pope Julius III., where he created him cardinal of St. Praxedes, in March, 1511, and eight days afterwards appointed him legate of the ecclesiastical army which had been sent into the Ferrarese, and was present at Buckingham's fatal combat with the Spaniards at the Battle of Pavia, Henry VIII. when concerning the pope's bull giving him the title of most Christian King, is extant in Rymer's Foedera (ed. 1704-1733, vol. ii. p. 376). This prelate died at Rome, from poison, July 14th, 1514, and was buried in the English house of the Augustine Friars. His letter to King Henry VIII. in which he exhorted the pope to remove his bull, was published by Rome in 1514. Bainbridge is usually stated to have been poisoned by one of his domestics, Rinaldo de Medena, whom he had cashiered. Rinaldo de Medena, however, was not the steward of Cardinal Bainbridge, as Roscoe says in the Life of Leo X. of the fourth of December, 1518, that his death was at St. Snow, but merely a priest, whom the cardinal employed as his financial agent in his chamber. Rinaldo de Medena, after confessing that he was suborned to this act by Sylvestro de Gigia, Bishop of Worchester, was at that time away from King Henry VIII. and the presumption that the Bishop of Worchester instigated the deed is strong. Richard Pare, one of the cardinal's servants, afterwards Dean of St. Paul's, in a letter to King Henry VIII. (Ellis's 1st Series of Original Letters, 1st ed. 1829, i. p. 106), acknowledges that his hands had some voice. The violence of the cardinal's temper to those about him is particularly dwelt upon by Oldonius, the continuator of Guicciardini. The death of Cardinal Bainbridge, by opening the way to the use of poison, but as inkepeer and tailor-father of the family, who are exposed to a greater degree of responsibility by the law of England than that of mere bails for hire, by means of acts of parliament and ancient customs, we refer, for the details of their liabilities, to Carlyle's Factitious Death of a Bailer of Wines, and to the ordinary care of the things respectively bailed to them. With respect to manufacturers or artisans, they are not only bound to keep with ordinary care the goods deposited with them to be worked upon; but they must also apply a degree of skill equal to the performance of the particular kind of work respectively committed to them. This obligation is founded upon the presumption that every man possesses the ordinary skill required for the business he professes. The doctrine of the civil law, is, that every person professing an art or handicraft spondet peritiam artis; and the consequence of this doctrine is that imperita culpa numeratur. If, therefore, I deliver cloth to a tailor with directions to make it into garments, and it is not delivered to me in the ordinary skill of his trade, he cuts it so as to spoil the cloth, he must indemnify me for the loss. With respect to agisters of cattle, wharfingers, and warehousemen, it may be stated generally that they are responsible for good faith with respect to habeas corpus, and ordinary care and diligence, and not to any greater extent unless under peculiar circumstances.

(Upjohn the whole of this subject, see Sir William Jones's Essay on the Law of Bailments: Bacon's Abridgment: Pollock's Treatise on Contracts, &c.; and Kent's Commentaries on American Law; in which latter work the subject of bailment is treated in a most perspicuous manner.)

The last bishop is one of the few of this name to whom we can find any mention of Bainbridge that we can find in Dunsborough and Westwell.

BAINS, Bains. Two places in France bear this name. The first is in the department of Vosges, and is a small town, but extremely pleasant. The second is much further south, and lies about three or four miles N. E. of the town of Fontainebleau, near the boundary between the department of Yonne and the department of Haute-Saône. It has several warm springs, which draw some visitors. The waters are clear and tasteless, except those of one of them, which are slightly mineral. The springs are used, as the neighbouring springs of Plombières, their temperature being only 32° of Reaumur, or 64° of Fahrenheit, that of the latter is 98° of Reaumur, or 116° 3' of Fahrenheit. The spring which gives rise to the streams of the two last is more efficacious for diseases of the chest, for gout, and rheumatic gout, (as gout-grande, and les rhumatismes griffus.)

Some ancient bronze medals, mostly Roman, but a few Greek, were discovered here in 1758, while digging to ascertain the cause of some derangement which had
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This line of coast is bold, rocky, and naturally destitute of seaports. The enterprising inhabitants of old Assos, however, removed the defect by art and industry. They threw out a strong mole, or stone dyke, from the shore, and this was so disposed as to shelter their vessels from all the more dangerous winds. Through the neglect and storms of many centuries this artificial work has fallen to pieces and almost disappeared, but in its ruins there still break and foam over its foundations and fragments.

A steep and well-defended ascent led from the port to a broad but shelving platform which was the cemetery of the town and which is still strewn with sarcophagi of granite. From the cemetery a long flight of steps is fortified, conducted to a terrace and porticoes, and to the principal gate in the city walls. Within that gate the lower city, with its baths and edifices, rose up the gentle arches of a hill, in the rear of which a steep granite rock towered above all the city, and served for the natural Acropolis or citadel, which the Greeks always looked for in selecting the sites of their towns. On the summit of this rock stood the building of the Acropolis, and on its sides, fronting the sea, rose temples, porticoes, a theatre and other public edifices, all of great and noble proportions, as is evident by their remains and fragments. In the days of its prosperity, therefore, Assos, with its outworks rising from the sea, must have presented a striking and beautiful aspect. Its inhabitants, also, from the sloping hill, or lofty Acropolis, could enjoy one of the most extensive views in Asia Minor. From there, across a narrow arm of the Adriatic Gulf, their eye could take in nearly the whole extent of the island of Lesbos with its fertile plains and lofty mountains, behind which, at sun set, as being lost in the still, the curious accimated to the highest mountain of Chios (Sco) is generally visible.

The walls of Assos were of great strength, and about five miles in circuit. Three of the city gates remain almost entire, and the ruins of the principal gate, that faced the sea, are a magnificent object. The gate is defended by a few strong towers, and the traveller may still walk over part of the grand flight of steps which led from the port and the cemetery to the city.

The ruins of Assos have been rarely visited. In 1801, when Dr. Hunt and Professor Carlyle went to Bairaem, on their descent from Mount Ida, they found these ruins so considerable, and of so elevated a class, that they called them "magnificent remains of a city." These two gentlemen may be the discoverers of Assos, for even until their visit such was the reputation attached to them (as M. de Choiseul's Memoirs relating to European and Asiatic Turkey), no account of that important and splendid city had ever been published. M. de Choiseul, in his Voyage Pittoresque, indeed, makes mention of the ruins, but slightly, and in a passage which was lost in the fire which destroyed the spot, but knew nothing positive about it or its antiquities.

Dr. Hunt found—

1. Three of the ancient gates quite entire, and the fourth gate and flight of steps in ruins, or imperfect, as already described.

2. On the summit of the Acropolis the remains of an edifice, which, in the revolution of ages, had been a Genoese castle and a Greek church, and was then (m 1801) a Turkish mosque. Over the doorway of this building was an inscription in very modern Greek characters. Near the same edifice were two reservoirs or cisterns to hold water for the garrison, and one of them still supplied, in part, the modern town of Bairaem.

3. On the heights near the Acropolis some broken columns (fluted) of granite, and various bassi-rilievi, the figures of which were twenty inches high, and cut on blocks of granite. The subjects of these sculptures were, a procession to a sacrifice; a symposium, one of their horns stuck together; three horse running, and two winged sphinxes, resting each of them on a foot on a kind of candelabrum, placed between them, and looking upwards. The style of the sculpture resembled the Egyptian.

4. Number of fragments of shafts of columns in their original site (on the Acropolis), so that a person conversant with ancient architecture could easily trace the plan and different details of a temple to which they had belonged. These columns were of granite, and three feet in diameter.

5. Descending from the Acropolis, a small but beautifully
constituted edifice, having an arched, or rather vaulted, dome. The walls and roof were composed of huge blocks of granite fitted together without cement. The Turks had once converted this building into a vapour-bath, but at that time it appeared deserted.

6. On a lower declivity of the rock of the Acropolis an ancient Greek theatre, of which the remains were very considerable. The stone seats for the spectators were composed of several tiers, and the area of the theatre was about one hundred and forty feet in diameter, being in front of the temple of Dionysus, and surrounded by the agora on three sides. In the centre of the area was placed a raised platform, which was raised about five feet from the level of the ground. The seats for spectators were composed of steps, the lower row being seven, and the second row being six, each step being about one foot in height. The seats were covered with a cloth of grey granite, and the orchestra was divided into three parts, each consisting of a row of seats for two or three hundred spectators.

7. Along the whole line of the wall that fronts the sea, fragments of columns and architraves, which indicated an extensive portico. Some marble statues, which still remained, showed that this portico had been of the Doric order. Two large circular bases were seen, and one of them was of a Corinthian character, but apparently of no importance, lay near this spot.

8. At the foot of the ancient flight of steps, in the cemeteries already mentioned, Dr. Hunt observed many sarcophagi, some of which were seven or eight feet in length and breadth. Each of them had been hewn out of one massive block of gray granite, and its heavy lid or cover was not out of another. The sides of most of them were ornamented with festoons in relief, and many had the remains of statues which were defaced or defaced until they were inadmissible. The destructive Turks had broken into all these sarcophagi by making holes in their sides; and these entrances admitted kids and lambs, who were glad of the shelter and the nourishment which they found there.

Dr. Hunt also observed in various parts of the old town heaps of broken vases, beautifully varnished with black, and of that light elegant fabric called Etruscan. He was led to believe that the labours of any one who should care for excavations at Assos would be repaid by the discovery of many valuable relics of ancient art.

The tradition of the inhabitants preserved the fact that, during the middle ages, the place had been a fortress and commercial settlement of the seafaring Genoese.

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the happy language of the historian of the Peninsular war, so constant and extensive an influence: yet such is the natural force, and so buoyant are the hopes of the British soldier, that in no service are there to be found more enterprising officers of comparatively inferior birth and connections. At the time of the taking of Tippoo, Lord Cornwallis (the present Marquis Wellesley) was governor-general of India: his brother, Colonel Arthur Wellesley (the present Duke of Wellington), who even then displayed the qualities of a skilful officer commanded a corps of cavalry under General Baird. Usage entitled Baird to the command or government of the town which he had taken, even had his services been less brilliant and successful. Under this impression he took possession of the palace of Tippoo, who was among the slain, as his head-quarters. He was not long left in peace, for a regiment of the 2nd Dragoons, with a detachment of the 1st Light Dragoons and the 1st Battalion of the 32nd Regiment, under General Sir John Moore, arrived in the town to Colonel Wellesley, who, as it happened, had no active share in the capture. 'And thus,' said Baird, 'before the sweat was dry on my brow, I was superseded by an inferior officer. The injustice of this proceeding is not less, and the calamity of this great victory, about ten years after, proved himself to be a man of far higher military capacity: he was appointed to the command because he was brother to the governor-general, and not because he was a soldier of promise.'

In 1813, the capture of Assam was the greatest achievement of Sir David Baird's military life: and though his subsequent services were numerous and important, we do not feel it necessary to notice them in detail. He received the thanks of Parliament and the East India Company for his services in the expedition to Cashmere, and was made a member of the Company, in the hope of being rewarded by a red ribbon by his sovereign. Such a reward was held out to him at the time (our authority is Mr. Hook's Life) by Lord Mordaunt; but the promise was forgotten.

In 1818, General Baird commanded the expedition directed against the Dutch settlements at the Cape of Good Hope; took Cape Town, and was proceeding to organize his conquest when he was recalled for having sanctioned an ill-judged expedition of Sir Home Popham against one of the principal forts of the Brazilian coast in South America.

In 1827 he accompanied Lord Cathcart in the expedition of that year against Denmark; and, though wounded twice during the capture of Copenhagen, he is hardly mentioned in the despatches: while General Wellesley, his junior, who also had a command under Lord Cathcart, is made the subject of an elaborate eulogy. On his return, he was sent to superintend a 'camp of instruction' in Ireland; an employment which would imply that his proficiency in the mechanical sciences was sufficiently rated by his superiors than his fitness to command an army.

In 1846 Baird commanded a large force that was sent out to cooperate with Sir John Moore, then commander-in-chief of the British forces in the Peninsula. As we shall have to speak of the fortunes of this expedition in another place, we shall here merely state that it formed part of Sir John Moore's army in his retreat to Corunna, and shared in the glory of the battle of that name, which vindicated the honour of the English arms. On the death of that able commander (see Napier's History of the Peninsular War, vol. i. passim), General Baird, as second in command, became commander in chief, and the de-patched report of the battle was accordingly written in his name. He was however too severely wounded to take advantage of the accidental promotion; and even circumstances had been otherwise unfavourable: for he received no report of the action, which so shattered the bone of the arm and shoulder, that amputation from the socket became necessary. On his return, he received the thanks of Parliament for his gallant conduct, was gratified with the long-sought for red ribbon, and created a baronet.

In 1810 Sir David Baird married Miss Campbell Preston, of Perthshire, with whom he received considerable estates in that county. In 1814, at the termination of the war, he was present at Paris for a perusal and pension, considering the baronetcy and K.C.B. honour quite inadequate to the importance of his services; but he failed in his application.

In 1820 Baird was appointed commander-in-chief in Ireland, but remained in office only long enough to show that, though in the Upper Main; and as a hill county wholly ignorant of the principles of good government. He was removed from his command in 1821, when the Marquess Wellesley became Lord Lieutenant. From this period till his death, in 1829, he lived in retirement.

BAIRDSTOWN. [See BAIRDSTOWN.]

BAIREUTH, or BAYREUTH. This principality, which formed part of the possessions of the margraves of Anspach-Baireuth in Franconia, was, after its cession to Anobravia Prussia in 1791, the scene of a number of important events in 1807, at which time it contained a superficies of 1219 square miles, and a population of 200,700 souls. It was subsequently transferred by France to Bavaria, under the treaty of Paris in February, 1810, when it was divided into the upper and lower districts. The former was included in the Bavarian province of the Upper Main, and the latter in that of the Rezat. The circle or bailiwick of this name lies in the north-eastern part of Bavaria, in the immediate vicinity of the margrave of the province of the Upper Main, and in former times was of that of the principality itself. This town is pleasantly situated in a spacious and fertile valley between the Red Main, which is here crossed by two bridges, and the米粉 Creek. Besides the usual public buildings, the most remarkable is the Sophienburg, formerly the margrave residence, which was destroyed by fire in 1753, but has since been in a great measure restored; and its church with an octagonal tower of freestone; the new palace with its great hall; the theatre, which consists of an opera house, the riding-house (a spacious and massive edifice, containing a play-house), the barracks, the mint, and hunting establishments, now converted into schools, in the same way as the orphan-house has been appropriated for the town. Below the town, which is built round a bed of sandstone, rise thousands of trees, and some handsome fountains, a lunatic asylum, an infirmary, and an hospital, a house of correction, and a hall for the exercise of the gun and bow (schoss-bau). Besides the palace-church and a gothic church erected in 1404 in honour of St. Mary Magdalen, there are six other churches and a synagogue in the town. It is the centre of administration for the province, has boards for the home and financial departments, judicial tribunals, and a Protestant consistory. At the head of the public schools in Baireuth is
the Christian-Ernestine, which takes its name from the margrave who founded it in 1664: it has also several pri-
ivate and national schools, and a church library. There are tobacco-yards, nurseries for making tobacco-pipes, 
parchment, linen, porcelain and earthenware, cottons, and 
stockings; and the inhabitants carry on considerable trade 
in grain and flour. According to Stein, Baireuth lies in 
49° 59' N. lat. and 11° 49' E. long.
A road, bordered with trees, and scarcely more than half 
a mile in length, leads to the little town, or rather suburb, of 
'St Geogam See,' on the Red Main, opposite to Baireuth, 
and close to the site of a lake called the 'Brandenburger 
See.' A salt spring, which is known as the 'Barmine 
quelle,' which has been cultivated for agricultural and grazing pur-
poses: it consists of a single straight street, composed of 
210 handsome dwellings, all uniform in height, and has 
about 1800 inhabitants. The house of correction, Baire-
reuth, consists of playing-cards and workshops for 
metal-slab, &c. attached to it, in the latter of which the 
prisoners work up fifty-five different kinds of native marble.

A spring of mineral water, impregnated with iron and sul-
phur, was discovered here in 1824. The celebrated Joseph 
Paul (J. P. Fr. Richter) died in this place on the 14th of 
November, 1825, and a monument incloses his remains.

About three miles distant are the beautiful park, temple, 
garden, and waterworks of the Hermitage; the mansion to 
which the margrave had devoted the one hundred acres 
up with twelve cells, for the use of the former margraves as 
supersioris, and as many hermits; and the other with an 
equal number for the margravine and twelve female recluses.

Six miles beyond it lies the Sanktarel, a royal country-seat, 
resorted to by the margraves of the ancient Buthida.

BAIROUT, the ancient Berytus. [See BIRJOUT.] Baise. [See Garonne, &c.]

BAJA, a large market town in Hungary, situated near the boundary of the Austrian, in the circle of Bacs, and on the borders of that of Pesth; in 
46° 16' N. lat. and 18° 58' E. long. It contains 1676 
houses, and 13,634 inhabitants (Blumenbach, 1833), and 
beongs to Prince Grassalkovich, who has a handsome residence on 
the grounds. Upon an expiring time of the last owner, the 
Danube, has several churches, a synagoge, a Catholic 
gymnasium recently erected, a civic school of the first class 
(haupt-schule), and a military store for provisions. It 
is celebrated throughout Austria for its annual fair, to which 
immens of people are driven; and the press obtained 
for them are a guide to most parts of the empire. 

Much grain and wine are produced in its vicinity.

BAJAZID, or BAJAZET. [See BAYRID.]

BAKER, DAVID, an English Benedictine monk and 
ecclesiologist, was the son of John Baker, and 
nephew, on the mother's side, to Dr. David Lewis, judge of 
the Admiralty. He was born at Abercavenny, December 
9th, 1575. He received his early education at Christ's 
Hill. He proceeded to Cambridge in 1590, and went to 
the University of Paris, where he became a candidate of Broadgate Hall, now 
Pembroke College. Here he is recorded by Anthony 
Wood to have fallen into vicious and disorderly habits. 
Having left the university without a degree, he came to 
London, and joined his brother Richard, a barrister of the 
Middle Temple, where he studied law, and, in addition to 
the loose courses he had followed, became a professed 
miscrel. After the death of his brother, his father sent him for 
to Abercavenny, where being steward to Lord Abercavenny 
he was enabled to make his way to the natural 
world. Here, whilst returning home from holding a court at a distant 
place, a miraculous escape from drowning recalled him to 
the sense of religion, and made him ultimately zealous, in 
some way to enter into a religious order. After much meditation, he 
became convinced that there was no safety but in the Roman 
Catholic Church; and, taking a journey to London, he fell in 
with some Benedictine fathers of the Caxine congregation, 
with one of whom he shortly after repaired to Italy. He 
gave up his intentions towards his father, and, to avoid 
the try of his native air, he returned to England, 
where he arrived just in time to reconcile his father, who 
was engaged in the Roman Catholic faith. Having 
persuaded the local offices to his father, provided for his mother, and 
dispersed of his own estate, Wood says 'he made his pro-
fession of a religious state to the fathers of the Italian con-
gregation, to whom he gave an account of himself.' After 
this he resided partly in London and partly with 
Roman Catholic families in the country for some years, pro-
fessing his religion as openly as could be done with safety.
He then retired for a time to Evesham. Subsequently 
he became the spiritual director of the convent of 
English Benedictine nuns at Cambray, and also their confessor, 
with whom he passed nine years, and then again returned to 
Douay.

About 1681 an employment was recommended to him 
by the superiors of his order, that of searching after and 
transcribing the records of the ancient congregations of 
the black or Benedictine monks in England. His collections 
on this subject filled six volumes in folio. They are not 
very copious, but the Cluniac convents of Baclio 
Benedictinorum in Anglia, fol. Duce, 1656, was arranged 
and methodized from them; and they supplied many of 
the materials of Cressy's Church History, fol. Roma, 1668.
Baker's religious treatises, which were numerous, though 
none were ever published, are still esteemed by 
subscribers: these, in Wood's time, were preserved in the monas-
teriy of the English Benedictine nuns at Cambray, 
and Wood has recorded many of their titles.

Among the names of the literary friends of Baker, those of 
Robert Southwell, Thomas How, John Selden, Camden, 
and Godwin, are especially recorded. The exact time 
of his last return to England is not mentioned. He died on 
Gray's Inn Lane, August 9th, 1641, and was buried at St. 
Andrew's, Holborn. Father Austin Baker was also 
mentioned with great respect by John Forster, in his 
Spiritual Exercises. [Wood's Athenae Oxoni. ed. Sme, 
vol. iii. col. 7; Granger, vol. ii. p. 200; 
Chalmers's Biogr. Dict. vol. iii. p. 333.]

BAKER, HENRY, whose name is familiar to those 
who are interested in microscopic observations, was the son 
of William Baker, a clerk in chancery: he was born on 
the 8th May, 1698, in Chancery-lane, London. In 
1713 he was placed with a bookseller, whom he left as 
1722, to reside with John Forster, an attorney. In the 
first practised tuition on the dead and disabled, an employment 
which he afterwards followed with so much success, his first pupil being Mr. Forster's daughter. The names of 
the first families in the land are to be found among his 
students; but he seems to have had a faithful and 
the mankind in general should profit by his power of com-
municating ideas to these unfortunate objects, for he is said 
to have required a bond for 100l. from each pupil not to 
memorize his method of teaching. In 1744 and 1745 he 
published the first edition of the Microscope made Easy, 
which was followed by his Employment for the Microscopist. 
In 1744 he received from the hands of Sir Hano Sion, Presi-
dent of the Royal Society, the Copley medal, for his micro-
scopic experiments on the crystallizations and configur-
atian of salt in the ocean.
His experiments upon the fresh-water polyphys, Hydro emer-
dus, and upon other minute animals, are very curious and 
instructive; and though he was censured by men of small 
minds as an observer of little things, his observations 
are blessed with a rare nature and originality, which 
stuns with contempt. Dr. Hille, a disappointed candidate 
for a fellowship of the Royal Society, who had been under 
great obligations to him, was one of these reprobates.

Henry Baker died in the Strand on the 24th November, 
1774, in his seventy-seventh year, and was buried in the churchyard of St. Mary-le-Strand.

His collection of natural productions, with some curios-
ties, &c., occupied ten days in the sale, which took place 
in 1787.

The large Alpino strawberry and the true rhubarb 
(Rheum palmatum) were introduced by him into this coun-
trv: he also made us acquainted with the history of the 
Corrus Palustris, or corritone of the north, transmitted
by Dr. Wolfe. This coccus was generally used as one of the principal kinds of scarlet dye before the discovery of South America.

"Cautions in viewing objects," from his Microscope made Easy, are well worthy of the attention of those who pursue their inquiries even with the improved instruments of the present day.

"Be aware of determining and declaring your opinion under every sort of imagination, often gets the start of judgment, and makes people believe they see things, which better observations will convince them could not possibly be true: therefore assert nothing till after repeated experiments and examinations, in all lights, and at all positions.

Mr. B. shake off all prejudices, nor harbour any favourite opinions; for, if you do, it is not unlikely fancy will betray you into error, and make you think you see what you would wish to see."

Remember also, the truth is the matter you are in search after; and if you have been mistaken, let not vanity seduce you to persist in your mistake.

BAKER, SIR RICHARD, the author of the Chronicle of the Kings of England known by his name, was born about the year 1568. Wood (Athenae Oxonienses), and the writer of the article 'SIR Richard Baker,' in the Biographia Britannica, makes Sissinghurst, in Kent, his birth-place; but Fuller, who speaks of him as a personal acquaintance, in his English Worthies, states that he was a native of Oxford. He was educated at Balliol College, where he was a fellow, and afterwards principal, of Clare Hall. He was subsequently made vice-chancellor of the university, and by degrees rose to be chancellor of Oxford, and was for some time the principal of that college.

He died in London, in 1643, and was buried in the church of St. Mary the Great, in Cambridge, where he became a preacher at St. John's College, July 9th, 1674, and was elected fellow of his college upon Dr. Ashton's foundation in the month of March.

Having applied himself to the study of his profession, he entered into orders in 1665, and in June, 1667, was collated by Lord Crew, then bishop of Durham, to the rectory of Long Newton in that diocese, which he cheerfully resigned in 1690, upon refusing to take the oaths to King William. He now retired to his fellow's prospects at St. John's, in which he was protected till January 20th, 1717, when again refusing to take the oaths to a new government, he was ejected from it, in company with several other learned men. Mr. Baker retained a lively sense of this deprivation, and very frequently expressed his regret that the blank leaves of all the books which he afterwards gave to the college, 'Tho. Baker Coll. Jo. socius ejectus.' He was the more offended because he thought the master of the college, Dr. Jenkyns, might have screened him by connivance, as he had done in the case of his fellow, Mr. Dunton (Memoir of his own life and Writings, 2nd ed. p. 29) says that, after the death of King James II., Mr. Baker had some thoughts of taking the oaths to the government, but that for his oath being also enjoined, which put an end to his deliberations on the subject. After his ejectment, he still kept his chambers in St. John's College, and resided there as a commoner-master during the remainder of his life. An annuity of 40l. a-year was fixed to him by a subsequent act of parliament, and the revenue derived from this, together with the profits of a fellowship, took the oaths, kept his fellowship, and gave Mr. Baker the profits of it. (Biogr. Brit. edit 1778, vol. iii, p. 5, from a communication to the Rev. R. Robinson, of Clifton, by Mr. Baker.) Mr. Baker, in his Memoirs in his MSS. vol. xxiii, p. 149, doubts this fact, but says that Edward, the second Lord Oxford of the Harley family, certainly gave him continued assistance.

Dr. Herford, who attended him, communicated a manuscript of the life of Sir Richard Baker, which he had taken at the time, to Mr. Cole, in a letter dated 13th October, 1777, still preserved among Cole's MSS. in the British Museum. Mr. Baker died July 2, 1740, and was buried in St. John's outer chapel, near the monument of Mr. Ashton, who founded his fellowship.

Being appointed one of the executors of his elder brother's will, by which a large sum was bequeathed to pious uses, he prevailed on the other two executors, who were his brother-in-law, Francis Johnstone, Esq., and the Rev. Mr. Hall, to take the sum of about 1310l. of the money upon an estate to be settled upon St. John's College for six exhibitors. The right of disposal of them was reserved to himself during his life, and afterwards vested in the master and senior fellows of the college. Mr. Baker likewise gave some books by the consideration of six pounds a-year (then legal interest) for his life; and to the library several choice books, both printed and manuscript; medals and coins; besides what he left to it by his will, which were 'all such books, printed and manuscript, and such books as he made his mark in.'

All that Mr. Baker printed was, 1. 'The Preface to Bishop Fisher's funeral sermon for Margaret, Countess of Richmond and Derby,' Svo. Lond. 1706; 2. 'Reflections on learning, showing, among other things, the importance of a comparison of works, in order to divine the usefulness and necessity of revelation,' Svo. Lond. 1716, which went through eight editions: both works were without his name.

His manuscript collections relative to the history and an-
tiquities of the University of Cambridge formed the great honour of his life, and chiefly enticed him to a notice of the Colani.

The first volume is folio, and three in quarto, closely written; and are divided between the British Museum and the Public Library at Cambridge. The former possesses twenty-three volumes, which he bequeathed to the Society of Antiquaries of London in memory of the latter, which he been in folio and three in quarto, which he bequeathed to the University. A minute account of the contents of every volume will be found in the Catalogue of Mr. Thomas Baker's MS. Collections, which was published in 1872.

See also the catalogue of the Harleian Manuscripts for the continuance of the contents of those deposited in the Museum.

The assistance which Mr. Baker gave to his contemporaries engaged in literary pursuits was valuable and extensive: such is more particularly acknowledged by Welcker in his Sufferings of the Clergy, by Bishop Burnet, Archbishops Wake, Strype, Thomas Hearne, Professor Ward, Browne Willis, Peck, Le Neve, Bishop Kemble, Dr. Conyers Middleton, Dr. Waterland, Dr. Zach. Grey, etc. The Society of Antiquaries of London strongly recommends Mr. Baker, and there is another in the picture-gallery at Oxford.

For the particulars of Mr. Baker's life here recorded we are indebted to the Biographie Britannique, as already referred to, to Baker's Memoirs of Dr. Zach. Grey, 8vo. Cambridge 1747; Chalmers's Biograph. Dict. vol. iii. pp. 314-350; and Colby's MS. Collections, Brit. Mus. vol. xxiii. xxxii., xxxiii., with his Athen. Cantab. lett. B. In the second volume of Lord Orford's works, p. 323, is the following account: nothing has been drawn from it for the present account.

BAKEWELL, a parish and market-town in the hundred of High Peak, and county of Derby. The parish comprehends fifteen townships, and contains a population of 9503. The lord of the manor is of great antiquity. It is first mentioned in the reign of Edward the Elder, who, according to the Saxon Chronicle, in the year 924, marched with his army from Nottingham to Badeawillian, which was the original name of Bakewell. Edward, in the same year, concluded a treaty with the inhabitants, in which he has generally been translated a burgh or town (see Lysons's Magna Britannia, vol. v. p. 24.). The Castle Hill is a knoll on the east bank of the river Wye, opposite the bridge; it retains traces of the keep, i.e., Bakewell stands on the west bank of the Wye, about a mile below its junction with the Derwent. According to Camden, it derives its name from a mineral spring and an ancient bath in the place, which are supposed to have been known to the Romans.

The latter spring, says the same authority, "bubbles up with a most pleasing fermentation above the stomach, nerves, and the whole body." In the Domestick Surveyor, the name of the place is written Badequella, and was soon afterwards corrupted to that of Bawacle, whence the name was transferred to the modern language, and natural. There is no evidence to prove that Bakewell was ever a station. A Roman altar was discovered in the meadows about a mile south of Bakewell, near Hadam; it is at present on the porch of the old dining-room at Hadam.

William the Conqueror gave Bakewell to his natural son William Peverel. The son of the latter having forfeited all his heritable property in the reign of Henry II., King John, soon after his accession to the throne, granted the manor of Bakewell to Ralph Gernon, in whose family it remained until the marriage of the beautiful Gervase, daughter of Robert of Frongae, who afterwards married to Sir Roger Wentworth, who sold it, in the reign of Henry VII., to the Vernon family, who afterwards disposed of it to the Duke of Rutland, in which family it still remains. Bakewell had a bold and picturesque situation, and the only limits of the parish are the north by the Derwent, south by the river Wye, east by the town of Bakewell, and west by the town of Winster. The church stands on a rise of land, and is kept in the tow-nhall. Chatsworth House, the residence of the Duke of Devonshire, is about three miles from Bakewell. This splendid mansion was built by William, the first duke who bore that name. It was erected on the site of the mansion built by Sir William Walworth, in the middle of the sixteenth century, and in which Mary of Scotland was imprisoned for thirteen years. The present edifice was begun in 1667 and completed in 1700. The most conspicuous feature of the building is the great octagonal tower, which is dedicated to All Saints, is an ancient and handsome structure, situated on an eminence. The workmanship exhibits specimens of the style of three different periods. It is built in the form of a cross, and has on the sides of the four arms, a square tower and spire, and on the entrance front, an octagonal tower and spire. The latter has been taken down. The western part of the nave is of plain Saxon architecture; but the external part of the west door-way is enriched with Saxon ornament.
Fountains have been erected in every quarter of the town, and add to its salubrity and ornament: the water in one of a pool is fed through pipes, and falls on handsome marble slabs, round which the Tatars collect for the purpose of performing their ablutions before they proceed to prayers in the neighbouring mosques. The Greeks are confined to a distinct quarter, which may truly be designated the streets of Bakhtserai. 'The Khan Bera,' or palace of the ancient khans of the Crimea, stands on the slopes near the eastern extremity of the town. This prodigious range of eastern buildings, a perfect labyrinth of princely abodes and offices, courts and gardens, fountains, corridors, and halls, has been restored to its former magnificence under the Russian government: the various structures which it encloses are roofed with red tiles, and surmounted with numerous turrets, which answer the purpose of chimneys. On entering the first court, which is built upon a quay on the Teshurak Su, a splendid mosque is seen; on the left hand, lower down lie the stables, and on the right stands the spacious residence of the khans, one story in height; a collection of edifices varying both in elevation and dimensions. The front is furnished with arches, supported by painted, coloured arabesques, over which soar the double-headed imperial eagle, in place of the old Turkish crescent. It opens upon the grand flight of steps leading to a splendid vestibule with floor of marble, and over the door is sculptured an Archangel, the personification of the master of this door is the conqueror of the surrounding soil, the mighty lord, Gadsik Gera, son of the khan Mengli-Geray Khan. May God, our Lord, vouchsafe unto the Khan Mengli-Gera, and to his father and mother, the gift of life that will make their days as the days of those whom the walls of the vestibule itself are two noble fountains, the waters of which are constantly flowing into marble basins; they have also a long inscription over them, which is thus wound up: He that is tormented with thirst will raise his eyes across the waters of the great Kala, and the Kapeh Khan will also grant them: the inscription is extremely long, and I am not able to reproduce it. Behind the mosque is used for a cemetery, where the poplar, nut, and mulberry are intermixed with the tombs in which the khans and their kindred lie interred. One of these mausolea stands on an eminence, and is composed of a gilt cupola, fifteen feet high, supported by marble columns, which the celebrated Kerim Gera Khan erected to the memory of his beautiful wife, Dilara-Biske, a Georgian princess. The singular Tshufat-Kale, or Jew's Citadel, is about four miles out of the town, and one-half of the road to it runs by the sole Jewish burial place of the town. It is a spacious structure, about one hundred feet in height; at one point behind this barrier is a deserted monastery and church, called the Uspenki Monastery, or monastery of the Virgin's ascension, in which there are habitations for seventy brothers, hewn out of the solid rock. This place is held by the Jews, and is very dear to them, as it is the cradle of the country; and attracts vast numbers of pilgrims. After quitting the line of wall, the road traverses a very precipitous district to the Valley of Jehoshaphat, where the Jewish cemetery stands with its grove of cypress and several monuments in white marble: from this valley a short but exceedingly steep ascent leads to the gate of Tshufat-Kale. The place was the site of an old fortress constructed by the Genoese on the summit of a rock surmounted by a circular wall two miles in circumference, partly destroyed by Karaishefs Jews to the number of about 1200, and consequently contains near one-third of the whole of the town, whether in Europe or Asia. They live isolated from the rest of mankind, clove rigidly to their ancient rules and usages, are scorned by their brethren in Asia as spiritual matters, and are unmolested by any interference on the part of the Russian government: their integrity has passed into a proverb among their neighbours; they demand credit, they bestow it, and it is esteemed among their children, and for the exemplary life which they lead. They trace the separation of their sect from the rest of the Hebrew nation to the time of the Babylonish captivity: they never intermarry with strangers, and depend upon the law for their happiness.
sixty miles, but good authority is wanting. It is now generally called Derây-i-Nîlz, or the Lake of Nîlz, from the principal town in its vicinity. The designation of 'Lake of Bakh-
tegân,' which the old eastern geographers derived from an antient village in the neighbourhood, the ruins of which still exist to the eastward of Khirîr. According to Hamdallah Mustawfî, a Persian geo-
grapher quoted by Sir W. Ouseley (Travels in Persia, ii. 171-172), the Lake of Bakhtegân is fifteen farsangs in length, and its circumference thirty-five farsangs. Khârî, which is quoted (ibid. 60) as giving it a circumference of not more than twenty far-
sangs. The river Kur (of Fars), better known under the name Band-Emir or Bandemir, falls into it. During sum-
mer, when the water is low, and the lake is dried up, many live on it, which is collected by the people of the borders. This salt is esteemed remarkably fine, and is much used throughout Fars.

BAKU or BADKU. The territory of this, which is con-

fined to the peninsula of Abasohor, on the west side of the Caspian Sea, forms part of the con-
quests made by the Russians in 1805, and lies to the north of the former Khanat of Shirvan, to which it has since belonged. Besides these, Baku contains thirty-five villages, and, including the islands, 10,000 inhabitants; among whom Khîpoh states there are 1000 Turcoman families. Their stock, as compared with Gamba, is composed of camels, 3000 horses, 5000 oxen, 45,000 sheep, and 45,000 goats. Lents observed that the

quarter of the globe more favourably situated for an extensive traffic with the East capital, Lents, in his report upon a mission into these parts in 1817, says, 'the Caspian Sea is a sheet of fate; there is no one who adds that there is a

elevated, as having no height within it which exceeds 1000

feet; in general, the soil is of a rocky nature and sterile, without one attractive spot in its whole extent, destitute of a single stream, and without any water but that which is found from the ground; this has a salt disagreeable flavour. Not in the vicinity, we learn from the Georgians, have a layer of mould which on which, and maize, melons, fruits, rice, and cotton, on the highest ground saffron, are raised. In some parts, too, the opium is prepared from poppy-heads; and there is a species of red

and highly-savory onion, which is not found elsewhere, is cultivated under cover.

Besides the gaseous eruptions proceeding from the satu-
rating of the soil with naphtha, the peninsula is

ized for numerous volcanic formations, the most striking

One of the most violent eruptions, says Lents, seven miles to the south-west of the town, in December, 1817. A column of flame 1,230 feet wide divided out, accompanied by a great

of large stones and jets of water; it lasted, in its greatest dimen-
sions, fifteen days, and still emits a jet of flame. Lents notes that the
trees exist upon it; but portions of the soil have been

as a devouring element, is impossible to detect the least hint in

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socalled volcano, with its field of mud, which, Lents

was informed, dates also from the year 1817. The

sula is, however, better known for the suppuration of

of naphtha, with which its soil is charged, in the neigh-

bourhood of the capital. It not only streams spontaneously through the surface, but that of two described, and its principal sources are, according to

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length. The walls of the southern mountain are composed of twenty cells or more, where the priests and Ghebers reside. The cells were kept very clean, and their tenants had a dark complexion and emaciated appearance. Some were covered with earth, and some with a thick layer of sand, and some were covered with a thick layer of sand, and some were covered with a

about stark naked, with the exception of a waistband. They were used for their legs. Each cell contained three earthen potts, inserted in the floor, for the purpose of preserving gas for domestic and other uses. The pensators to whom these

were given use of one, each separate individual of ten usually survives them.

The town of Baku lies at the southern extremity of the peninsula of Abasohor, where the Caspian is bounded by two islands, which render the roadstead a safe anchorage to vessels. The sea is close to the shore. Baku was once washed by the Caspian; but they are now

Bak: it appears, says he, "not to be a

word, for the

are so near the

of the

gas, or

for

is not far from the

which is

of

water, and in calm weather the people of the

Caspians; they then set fire to it, and it is borne out of

sight, giving the waves the appearance of a sea of fire. Our finest illuminations and fireworks sunk into insignifi-

ance when compared with this splendid exhibition. The

whole of these naphtha springs belong to the government; and in 1806 it was rented to an Armenian for 2,500 silver

roubles (about 9200L). The weavers and other poor persons of the neighbourhood obtain a cheap light, and abundance of heat for cooking, by driving a clay-pipe or hollow reed, steeped in tree-tar, into the burning stones and setting fire to the gas which issues through it. The Persian Ghebers, or fire worshippers, who sojourn in this quarter, bottle the gas for the purpose of sending it to distant connoisseurs in their native country, and in this way it comes one day to the sun, and the other day together; and the inhabitants of Ateshujah employ a sort of gas for

for their time-kills and for consuming the remains of their

relatives, as well as instead of wood, coal, or lamps. Both

Reineger and Rottiers describe the Ayur-Mehjan, or burning-

field, near Baku; it is a hollow expense full of fissures and

coated with white sand and grey dust, in which particles of sulphur abound. Some fissures are seen burning, some

smothering, and others sending naphtha vapours. There is a

boiling lake too, not far from the town, which is an

consequence of the gas issuing from the burning stones. After the warm showers of autumn," observes Rottiers, "when the atmosphere is scorching, the whole surrounding country appears to be on fire, and it frequently rises along as a dense cloud, which momentarily departs, by the violence of the wind." At other times it stands motionless. In October and November, the moon being bright, an illumination of a brilliant azure tints lights up the whole horizon in the west. Mount Sngha ku (the Mount of Paradise, a promontory

of

the Caspian Sea) is a sheet of flame; but on these occasions it never descends into the plain country. On the other hand, if the night be dark, innumerable jets of flame, sometimes isolated, and at

arians in masses, cover all the low ground, leaving the

fields. The flames thus appearing are not a devorings element, as one would conceive, but are devouring, and in the midst of what every one would conceive to be a devouring element, is impossible to detect the least hint in

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About fifteen feet from it: in other places the sea has gaunched upon the land; and the ruins of ancient buildings are discovered at a depth of eighteen feet and more. The terrace is broad and flat, built upon a declivity, the summit of which is crowned by the palace of the foreign tribunal and commands some delightful prospects. The streets are narrow and tortuous; and the houses ill-constructed and of small dimensions, with flat roofs coated with naphtha and balsam. Sheik-Batul, falls into the river, which is given by the name of the Virgin's Tower, is the most striking object in the place. Baku possesses several spacious mosques, public squares, marts, and caravansaries, besides a Greek and an Armenian church, and some Tartar schools. Its imports and population are considerable. The principal exports consist of naphtha, saffron, cotton, silk, opium, rice, and salt. The duties of customs produce 30,000 silver roubles (about 4730f.) a year. The fisheries of the adjacent island of Bakuin are of some importance.

23° 27' N. lat., 44° 40' E. long.

Bala, a town in the county of Merioneth, in North Wales. 180 miles W.W.N.W. of London. It is situated on the northern extremity of the lake from which it derives its name. It has only one main street, which is very wide: the houses are generally low. At the south-east end of the town is a high artificial mound, which is generally supposed to have been the site of a small fortress. It is a place of considerable trade in flannel, stockings, gloves, &c., in the manufacture of which articles the inhabitants are constantly employed. It has a weekly market on Saturdays, and five annual fairs. The assizes are held here and at Dolgelly alternately. It is an incorporated town by prescription, and the government is vested in two bailiffs and a constable. It has two public schools, and is not a market town or county, however, ever had the right to return a member to parliament. It has no public building worthy of notice.

There is an endowed grammar-school, on the foundation of which the town has got now clothed and educated. Bala is a place of great antiquity: there are the remains of three Roman camps in the neighbourhood, which seem to have been used as stations before the total subjugation of the Ordinates. Bala is in the parish of Llan-ili-a, a village about one mile to the west of the town. The number of houses is 310; and the population in 1821 was 1163. In the parliamentary returns for 1831, the population of Bala is not given separately, but conjunctly with that of the parish, which is 3239; of whom 1134 are males, and 1925 females.

Bala-POOL, or POME-MERE (called by the natives Llyn Tegid), a lake in the county of Merioneth. Llyn is the largest lake in Wales, being four miles in length, from N.E. to S.W., but less than one mile in breadth. Its surface is but little influenced by the current of the river, and is eight feet above its usual level, and overlooks the adjoining valley of Edeirnon. The bottom of the lake is mostly rocky, and the water is so pure, that the purest chemical tests can detect scarcely any quantity of foreign admixture. From the depth which indicates the great age of this lake, it is thought that the lake belonged, in the thirteenth century, to the Abbey of Basingstoke, but is now the property of Sir William Watkins Wynne, who has several fishing lodges on its margin. It is well supplied with pike, eels, red trout, and the fish called graymullet, but contains no salmon. The usual mode of fishing is by angling from the shore. The scenery in the immediate neighborhood of the lake has nothing remarkable about it, though it is pleasant and varied; but the distant view is fine. An ancient and lofty tower lies above the margin of this lake, and some very curious tumuli are still to be seen in the vicinity. It is sometimes, though not often, frozen over; and when covered with snow has been mistaken by travellers unacquainted with the localities of the country but from a distance may be seen. The principal works which have been consigned in this and the preceding article are, Gough's edition of Camden's Britannia; Beauties of England and Wales; Pennant's Tour through Wales; Akin's Tour through Wales; Evans's Notes on North Wales; and C. Donne's Topographical Dictionary of Wales, vol. iv.; Parliamentary Reports, &c.

BALACHNA, or BALAKNA, one of the circles of the Infernal region, or Tartarus, and the -name of the valley of the river Euphrates, which lies between 35° 59' and 35° 25' N. lat., and 45° 10' and 44° E. long., principally on the right bank of the Volga. Its surface is hilly and irregular, and the thickly-wooded valleys of the Balakna-Gora range bound it on the left bank of the Volga, both sides of which river are here diversified by hills and valleys. The land is highly cultivated even to the very edge of the woods, and the plains produce rich crops of flax, hemp, and corn, as well as afford pastures for considerable herds of cattle. The population is between 90,000 and 100,000 souls. The chief town of this circle, which bears the same name, is situated on the right bank of the Volga, where the river divides, on the east side of which is the town of Balakna, and on the west of Nishny-Novgorod. The wooden walls and towers which once surrounded it were destroyed by fire in 1730: its present inclosures consist of earthen ramparts and a deep ditch. It contains fifteen churches, a monastery, and a considerable number of individuals engaged in traffic in grain, linens, and other manufactures, and construct barns for the navigation of the Volga. The salt springs in its vicinity, which were first rendered available in the year 1531, and in process of time have raised to the number of fifty, have been abandoned under a government prohibition issued in 1755. Balachna lies in 56° 15' N. lat., and 43° 30' E. long. Among other towns in this circle the most deserving of notice are Gorodishche, belonging to the Orloff family, which has three churches, a monastery, where the celebrated Alexander Nevskoj (see vol. i. of this work, p. 306), Grand Duke of Russia, spent some years as a monk (population about 3490); and Nizhelskoe-Selo, on the left bank of the Volga, a manufacturing town, noted for its considerable numbers of black, and white, and brown sheep.

BALACLAVA, or BULUKLAVA, the Soubmam Lini-
men (Σωμιμων Λειμόν) of Strabo (p. 389), probably the Κολις λειμόν (Good Fort) of Pomponius Meias (i. 1), and in more modern time the Tarka of the Turks, the Cebram, Cebelico, or Cebelico (whence its present name of Cembalo or Cembalo). It is a port on the S.W. coast of the Crimea on a small bay of the Black Sea, in the circle of Astrakhan, which forms part of the Russian province of Taurn. The Turks, by whom it was inhabited, were scattered among the Cabezos, who consequently fell into the hands of Russia, having abandoned it, Catharine II. made it the head-quarters of a regiment composed of 2000 Albanians and Greeks, whose descendants still compose the coast-guard in these parts, occupy the town, and live in the posse comitatus of native customs and mode of life. It has an excellent harbour, capable of receiving ten or twelve sail of the line, and with so narrow an entrance (see Strabo) that more than one vessel can enter it at a time. In 1796, however, the port was closed against merchant-ships, as the only means of putting down the extensive smuggling which its position had encouraged. The ruins of an old Genoese fortress on an isthmus, sometimes considered, by its situation, as the entrance to the bay of the Crimea, are rather narrow and paved with the limestone which enters so largely into the composition of the adjacent hills. Balaklava has at present but one church, and its inhabitants, who, were they possessed of greater industry, might cultivate with profit a soil well adapted for the growth of grain and grapes, subsist principally on the traffic they carry on with other towns in the Crimea: 44° 26' N. lat., 33° 36' E. long. (Weiland).

BALALENA (from the Greek θάλασσα), the Latin name of the common or Greenland whale, and adopted by naturalists as a generic term, to comprehend all the other species which agree with it in their zoological characters.

See Whale.

BALANSUPHTRA: this term was invented by De Lacerpée, to denote those whales which are distinguished by having an adipose fin on the back, whence they are called flippers by sailors, and which he proposed to separate from the other balans, and about 20 examples into the genus Balansus. The character, however, upon which he proposed to make this separation is utterly void of importance, and excretes no assignable influence upon the habits and economy of animal life. His division is consequently without utility. But in the theoretical system of mammalogy, at least for any other purpose than as a matter of simple convenience. The word itself is compounded of the terms balans, a whale, and crano, a bone or fin.
BALAGHAUTS, the name given to an extensive and fertile district in the south of India, and which is called in consequence of its being situated above the Ghauts, a stupendous mountain wall which rises abruptly from the low country, and supports, as it were, the table land beyond. This table land, which is sufficiently elevated to produce a sensible effect upon the temperature, extends from the river Krishna to the southern extremity of Mysore. The term Balaghauts does not, however, in its more usual acceptation, embrace so extensive a region, but is restricted to the territories of the Nirmal and the territories of the Amba. The acquisition of the East India Company under a treaty with the Nirmal, concluded in October 1806. This district has since been divided into the two collectorates of Bellary and Cuddapah, which comprise the conquests acquired by the Nirmal and the Amba in 1792 and 1799. This territory is sometimes described as the 'ceded districts.' It forms part of the presidency of Madras. Its northern boundary is well defined by the Krishna and Toombuddra rivers; the southern portion consists of valleys lying between the eastern ghauts at Gurumoodand, in 13° 45' N. lat., and 75° 34' E. long., and extending to Sera, in the Mysore territory, which last-mentioned town is situated in 13° 44' N. lat., and 75° 56' E. long.

With the exception of the two rivers which form their northern boundary, these collectorates do not contain any large streams, a circumstance which is owing to their elevated position. They have, consequently, always been subject to frequent droughts.

The black earth, or its more accurate name, is in general good; and in some parts, particularly on the western side, where a black earth occurs, it is so fertile, that, if once well cleaned and properly ploughed, it will require but little further labour for twenty years, and only a small amount of manure to keep the seed germinating and the crop prosperous. The system of drill husbandry is universally pursued. This rich soil is pure black mould, and occurs in some places twelve feet deep; it does not contain any undecayed vegetable matter. The expense and labour necessary for clearing the land is very considerable, so that the poorer classes are frequently obliged to settle upon less fertile soils which may be cleared with less labour and with less costly implements. This poorer soil consists sometimes of red gravel, which is occasionally mixed in uncertain proportions with the black mould already described, and with sand and calcareous stones. These less fertile farms are sometimes managed by folding sheep upon them. There is much poor waste land in these collectorates, but in the more fertile parts two or three days' rain suffices to insure an abundant harvest.

The British government, and does not break up the whole crop is placed in danger. Much mischief is also experienced by times of heavy rains in September and October, which burst the tanks and sweep the growing crops from the ground. By a survey made in 1857, it was found that the area contained 50,205 tanks and wells, nearly 14,000 of which were out of repair. This circumstance may afford some idea of the rapidity of the population, a disposition that may be, in a great measure, attributed to the frequent presence of hostile armies, which were accustomed to destroy such works of public utility.

When first the country came into the possession of the British, it was in a state of desolation, from which it had scarcely began to recover, when a severe drought, which continued throughout the years 1803 and 1804. destroyed the cultivation, and a great proportion of the cattle perished in consequence. On this occasion the inhabitants were only saved from the horrors of absolute famine through the exertions of Sir Thomas Moresby. In the general district, under the orders of the Nirmal, the distress was extreme. Notwithstanding this warning, we find so little effort made to avert similar calamities in future, that the wells and tanks were left unrepaird in the proportion already mentioned, and the loss caused by the consequent ignorance is incalculable. There is a great deal of scarcity, and although bad seasons have since occasionally been experienced, the district has been steadily and greatly improving. The productions of the country beyond the need for the population, consist principally of sugar, indigo, and cotton. The last two are of considerable importance, and those last mentioned are exported in considerable quantities. Cattle, sheep, and goats are reared in great numbers. The central and eastern divisions contain several diamond mines; and it is from these, and not from mines in their own district, that the diamond merchants of Golconda have been supplied.

The inhabitants of the district are generally a hardy and laborious race, and are not so severely inclined as the natives of the country below the ghauts. When the English first acquired the territory, every male inhabitant carried and was expert in the use of arms; these villages, too, were, for the most part, fortified, and so great was the state of anarchy into which they had fallen, that the inhabitants of neighboring villages were frequently engaged in conflicts with each other, while the troops of the superintending government were continually occupied in pursuing rebel bands. There was a constant occurrence, that scarcely any family could be found that had not suffered from this cause, and that had not at the same time been guilty of the crime.

Previous to the cession to the East India Company of the district, the cultivators had not any permanent interest in the soil, which was monopolized by the government; every house was the property of the ruling power. The people were consequently without inducement to make improvements, and were continually moving about from one situation to another.

Under these circumstances, it was fortunate for the natives that they were placed under the administration of so enlightened and benevolent a man as Sir Thomas Moresby. He was able to conciliate the feelings of the people, who were, in a few years, converted from small, independent, freeholders to peaceable subjects and industrious men. The benefits of the system which he adopted were further apparent from the increase of revenue derived from the cultivation of the soil. This revenue, which was raised in seven years from 10,049 to 15,177 pagodas, as well as from the great addition made during the same period to the number of the inhabitants, which increased from 30,770 to 41,850, is the measure of the improvements which commenced at the time of the cession in 1806. This increase arose in a great degree, from the return of persons who had emigrated during the troubles of the former government. From a census made in 1806, it appeared that the district contained 39,197 inhabitants, of whom 4,771 were males and 4,270 females, and 9,249 males exceeded that of the females in the proportion of eleven to ten. The greatest part of the population are Hindus, but there is a considerable proportion of Mohammedans among the inhabitants of Adon, Bellan, Coddapat, and Gumud, which are the chief towns in the district (Rennell's "Memorandum of a Map of Hindostan; Miles's History of British India; Reports of the Committees of the House of Commons on the Affairs of India.

BALANCE, a corruption, probably, of the middle Latin word "balans," which means the same as our "scale," from a word, which, it is thought, was of Phœnician origin. It is certainly an old word, and to this day balances are often called scales. In the sense of balance, hence came balance, mentioned by the same author, who considers the word balance, or bilanza, to be a re-creation from the common idiom. The word balance is found in the thirteenth century. From meaning the worth or value, it came to mean to weigh any object by means of a scale; but particularly when weight was the quality referred to. Hence came the general meaning of the term, in which it stands for any state of things under which opposing circumstances just destroy the effects of each other. When we speak of a balance of power, of good and evil, etc., hence also the commercial meaning, in which the balance is not the state just mentioned, but the sum of monies which must be added to one or the other side of an account in order that the debits and credits may be equal, or of equal amount. As an instrument of common use, the term scales is more frequently applied. In philosophical apparatus, the word is applied to any machine by which an effort is measured, at the pleasure of themenu, for there is no rule. For a more complete and specific : for the torsion balance, see Torsion; also Steel-yard, Lever, Weighing-machine, Spring-Balance].

The instrument most commonly known by the term balance is a superior sort of scales, constructed on the principle necessary for the most operations of physics, and particularly of chemistry. We shall therefore confine ourselves to state the circumstances which are necessary to a balance. For such a balance, see Steel-yard, Lever, Weighing-machine, Spring-Balance.

A simple straight lever, balance, is used with weights resting immediately upon it, so that the centre of gravity lies on the fulcrum, and in every position is the same; and on the position of the centre of gravity. The same occurs where some of the weights hang by strings, firstly, on the mechanical principle that any force may not
Then will the stabilities of the first and second be as $94 \times 9 +30 \times 1$ to $30 \times 3 +40 \times 2$, or as $28$ to $190$.

The sensibility is estimated by comparing the angles through which very small equal weights would incline the balances. If, for example, a grain put into a scale of each includes the first four degrees, and the second only two degrees, the first is twice as sensible as the second. To compare the sensibilities, multiply the length of the arm of each by the number which represents the stability of the other in the formula just given. Thus the sensibilities of the present balances would be as $12 \times 30$ to $1 \times 40$, or $360$ to $40$.

It would not be worth while to work very accurately by the preceding formula; but the general rules deducible from them are valuable.

1. Other things remaining the same, the longer the arm the greater the stability.

2. The arm having a given length, every increase of sensibility is a decrease of stability, and vice versa.

3. Additional weight, either to the scale or beam (the arm remaining the same), is favourable to stability, and unfavourable to sensibility.

4. Whatever does not alter the length of the arm cannot be favourable to both.

In all that precedes, it must be recollected that in the weight of the scale is included that of the weights to be in them. Consequently every balance has different degrees of sensibility and stability, with the different weights which are employed. But as, generally speaking, the quantities weighed in delicate balances are small, a balance which is not very sensible may be made just so for every weight with which it is intended to use it. A balance made by Ramsden for the Royal Society, weighing ten pounds altogether, turned with the ten-millionth of that quantity, or with about the thousandth part of a grain.

A balance should as much as possible be of the largest possible case. Steel and iron are apt to acquire magnetic properties. It should also be inclosed in a glass case, with doors for communication; and, when not in use, a portion of muriate of lime, or any other strong absorbent of moisture, should be kept in the case. A needle mounted on a horizontal beam, which points either exactly upwards or downwards when the beam is horizontal. A graduated scale of degrees is attached to the frame-work of the instrument, in such manner that the needle may point to zero when it is vertical. The oscillations of the balance, when the centre of gravity is near to that of suspension, will be very slow, and by means of the needle it may be ascertained, before the balance comes to rest, whether horizontal equilibrium has been obtained: for in that case it must balance, and the graduations be on each side of the zero point; while, if either scale be overloaded, the needle will move through more degrees on the side of that scale than on the other.

All that precedes has reference to the theoretical construction of the instrument, and the stability of one balance can be made, so that equal weights shall counterpoise each other. This is certainly impossible in practice; though one balance may be nearer than another. The following simple method, imagined by Borda, overcomes this difficulty, provided only the balance be sensible and well constructed at the knife-edge. Instead of weighing, say a portion of a salt against brass weights, weigh both the salt and the weights against some third substance, say, for distinction, iron weights, as follows: call the scales A and B; place the salt against iron in AB till it is a counterpoise; then remove the salt and substitute the brass weights in A until there is again a counterpoise. It is now of no consequence whether the weight of iron was equal to that of the salt or not; the weight of the salt and of the inclusion must be the same, however many times the stabilities, the two counterpoise the same weight of iron.

For more detail on this subject, see the treatises of Biot and Pouillet on Physics.

**BALANCE OF ROBERVAL.** An ingenious mechanical paradox, which may be fully described in the article LEVER.

**BALANCE (of a watch),** the circular hoop which is made to vibrate by the hair-spring, and supplies the place of the bob of the pendulum in clocks. [See WAVE.

**BALANCE OF POWER.** The phrase by which this phrase is founded appears to be the following. When a number of separate and sovereign states have grown up beside each other, the entire system which they constitute may be conceived to be in equilibrio, or evenly balanced, so

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C is the point of support, showing a section of one of the knife-edges, which rests upon a smoothly-polished plane; G the centre of gravity of the whole apparatus, and A B the points of suspension of the scales, D the point of coincidence of AB and CG. The stability of two balances is thus compared. Suppose that the same small disturbance be given to both, say the beam is inclined one degree in each. Then if the force with which the first endeavours to recover its position be double or triple that of the second, the stability of the first is double or triple that of the second. To compare these forces, construct the following formula for both.

To weight of both scales $\times CD$ add weight of beam $\times CG$. For instance, suppose two balances as follows:—

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<tr>
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<th>First</th>
<th>Second</th>
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<tr>
<td>Arm AD</td>
<td>15</td>
<td>14 inches</td>
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<tr>
<td>G</td>
<td>2</td>
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</tr>
<tr>
<td>C</td>
<td>1</td>
<td></td>
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<tr>
<td>Weight of beam</td>
<td>30</td>
<td>50 ounces</td>
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<tr>
<td>D, both scales</td>
<td>34</td>
<td>20</td>
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long as no single one of them is in a condition to interfere with the independence of any of the rest. The various states connected there are generally a few which may be considered as leading powers, it is by these being made to counterpoise each other that the balance is principally maintained. It is in this way only that the safety of the smaller states can be secured. Thus, when after the destruction of Carthage, there was no power anywhere left strong enough to cope with Rome; and the consequence was, that, one after another, the countries that yet remained sovereign powers fell under the yoke of the mistress of the ancient world. The gradual subjugation of nearly the whole of India by Great Britain, and the establishment of the late widely extended empire of France on the continent of Europe, may be quoted as other examples of the effect that the destruction of what is termed the balance of power.

On the contrary, so long as the power of one great state (however far surpassing in extent of territory, or other resources, of strength and influence, many of those in its neighbourhood) can be kept in check, or, in other words, balanced by that of another, the independence of the smaller states is secured against both. Neither will be disposed to allow its rival to add to its power by the conquest or absorption of some of the others, without being assured of the safety of its own by the system. And in this way it happens that each state, whether great or small, has an interest and a motive to exert itself in the preservation of the balance.

This point of policy is so obvious, that it must have been seized on by every nation of any stature, and by every state connected or situated as to influence one another. There may have been less or more of skill or wisdom in the manner of acting upon it, or the attempt to act upon it may have been more or less successful, in different cases; but to suppose that its importance had been overlooked by any states that ever existed in the circumstances described, would be to suppose such states to have been destitute of the instinct of self-preservation.

Mr. Hume, in his Essays, part ii. essay 7th) has shown conclusively, in opposition to the opinion sometimes expressed, that ancient politicians were well acquainted with the principle of the balance of power, although, as far as appears, they did not designate it by that name. In all the politics of Greece, he observes, the anxiety with regard to the balance of power is apparent, and is expressly pointed out to us even by the ancient historians. Thucydides (ib. 1.) represents the league which was formed against Athens, and which produced the Peloponessian war, as entirely owing to the jealousy of the smaller states, and after the fall of the Thebans and Lacedemonians disputed for sovereignty, we find that the Athenians (as well as many other republics) always threw themselves into the lighter scale, and endeavoured to preserve the balance. They supported Thebes, in the time of the Thirty Tyrants, and, when the Epiroonidae at Locera: after which they immediately went over to the conquered—from generosity, as they pretended, but, in reality, from their jealousy of the conquerors.

"Whoever," he adds, "will read Demosthenes's oration for the Megarian league, may see the utmost refinements on this principle that ever entered into the head of a Venetian or English legislator." He afterwards quotes a passage from Polybius (ib. i. c. 83), in which he writes states that Pytho, king of Syracuse, though the ally of Rome, yet sent assistance to the Carthaginians, during the war of the auxilium, "esteeming it requisite, both in order to retain his dominions in Sicily, and to preserve the Roman friendship, that Carthage should not become the sole power; for if this remain the remaining power should be able, without contest or difficulty, to execute every purpose and undertaking. And here he acted with great wisdom and prudence; for that is never on any account to be overlooked: nor ought such a force ever to be allowed to one hand, as to defend the neighbouring states from defending against it."

"Here," remarks Mr. Hume, "is the sum of modern politics pointed out in express terms."

It must be confessed, however, that the principle of the balance of power never so distinctly and generally adopted as a principle of general policy in antiquity as it has been in modern times. The systematic observance of the principle of the balance, subsequently to the subversion of the Roman empire, may be first traced in the conduct of the several Italian republics. It appears clearly to have formed part of what may be called the public law of those states; that, to ensure the connection of these, there was a necessity of being made to counterpose each other that the balance was principally maintained. It is in this way only that the safety of the smaller states can be secured. Thus, when after the destruction of Carthage, there was no power anywhere left strong enough to cope with Rome; and the consequence was, that, one after another, the countries that yet remained sovereign powers fell under the yoke of the mistress of the ancient world. The gradual subjugation of nearly the whole of India by Great Britain, and the establishment of the late widely extended empire of France on the continent of Europe, may be quoted as other examples of the effect that the destruction of what is termed the balance of power.

The leading rule by which it has ever since then been attempted to secure the balance was stated to be the opposing of every new arrangement which threatens either materially to augment the strength of one of the greater powers, or to diminish that of another. Thus, first Austria, and afterwards France, have been the great objects of this jealousy on the part of the other states of Europe. While the supremacy of the Empire was united in the person of Charles V. to the monarchy of Spain, that province was naturally regarded as formidable both by France and England. If he could have effected a permanent alliance with either of these powers, or could have even induced one of them to stand aside and severally, there can be little doubt that he would have taken that occasion to attempt to crush the other. The vast possessions of Philip II. appeared to call for the same watchfulness and opposition, in regard to his projects, from all the states that valued their independence. In later times, the ambition of Louis XIV. of France, and the scheme concerted under his management to unite in one family the crowns of France and Spain, drew the jealousy and the measures of self-preservation that were necessary to the safety of the independent nation of Europe. There can be no manner of doubt, that, if the designs of this sovereign had not been thus resisted, France would have become a century earlier than it did the mistress of the continent, and the independence of all nations of Europe would, at that period, have been extinguished. Our own liberties, as founded upon the Revolution of 1688, could, in such circumstances, certainly not have been maintained.

It is nothing to the purpose to argue that the maintenance of the balance of power has often involved the nations of Europe in contests with each other, which, if they had disregarded that principle, would not have taken place, at least, not at the time. It may be better that all nations should be subject to one, than that each should preserve its independence, and that is not to say that all nations will be sovereign and independent, they must fight for their sovereignty, as men must do for any other possession, when it is attacked.

Some persons appear to think that we in this country have no more to do with the maintenance of the so-called balance of power in Europe, because we live not on the continent, but in an island by ourselves. If the whole continent were reduced under subjection to a single despot, we might, in the funds to a considerable extent, and, in fact, as long as we are surrounded we would in the case supposed, certainly become insufficient. The water alone would not keep off an enemy, if we had not a navy to ride on; and we could not maintain a great war in any country, great or small, without the rest of Europe united under one head against us, certainly could not subsist.

The maintenance of the balance of power, however, although it has no doubt gives occasion to some wars, has probably prevented more. Its general preservation has, to a certain extent, united all the states of Europe into one great confederacy, and habituated each of the leading powers to the expectation of a most formidable resistance in case of its making any attempt to overreach the rights of its neighbours. It is not sufficient or wise to say that such attempts have been actually made. They would have been made much oftener had there been such general understanding as we have spoken of. It must be supposed, as a great encouragement and check to the schemes of ambitious potentates to know that, from the first consolidation of the modern European system down to the partition of Poland in 1772: a period, we may say, of three centuries, the smallest independent state has suffered extinction, or has become even very weak, or in the power or territory, notwithstanding all the wars for the purpose of conquest and aggrandizement that had been waged during that long interval.
produced cheaper and better abroad. It is the power of
exchanging the surplus produce of one country for the
surplus produce of another country which constitutes the
ultimate object of all foreign commerce. The profit of
the individual merchant is the moving force which impels
the machinery of this commerce, but the end is, that each
country may consume what it would otherwise go without.
In this point of view, every country is a gainer by its foreign
commerce; and if this gain could be estimated by figures,
every country which exchanges its products with another
country would have a favourable balance of trade: for both
individuals and nations exchange that which they do not
want for other things that they do want; and when both
parties continue to carry on such exchange, it is clear that
both are gainers. Which gains most is a question that
cannot be settled, and would be of no use if it could be
settled.

BALANINUS, in entomology, a genus of the order
Coleoptera, and family Curculionide. The species of this
genus are all remarkable in possessing a long slender rostrum
or snout, which is furnished at the tip with a minute pair of
sharp horizontal jaws: this instrument is used by the
animal in depositing its eggs, which are generally placed in
the kernel of some fruit.

[Balaninus acuminus.]

1. The tip of the rostrum magnified, showing the jaws, &c. 2. Side view of the same. 3. The larva. 4. The pupa. The larva, pupa, and perfect insect, are each represented rather larger than the natural size.

Balaninus acuminus, or the nut-weevil, deposits its eggs in
both the common nut and the filbert, having bored a hole
for that purpose while the nut is young and tender. When
about to perform this operation, the little animal may be
seen travelling over the nut, and feeling with its antennae
to discover a convenient situation, in selecting which it
shows great care; the spot being determined on, it cuts a hole
with the jaws at the top of the anut until it reaches the
kernel; in this hole the egg is deposited, which in a short
time is hatched and becomes a maggot or larva. The nut
being but slightly injured continues to grow and ripen,
while the larva feeds upon its kernel. In course of time,
this larva gnaws a hole in the shell, through which it
makes its escape, and immediately burrows into the ground,
where it assumes the pupa state, from which, in the follow-
ing summer, the perfect insect proceeds. The above figure
represents a nut which has been pierced by the larva.

Balaninus glandium, another species of the same genus
attacks the acorn in the same manner as the one above
mentioned does the nut.

BALANOPHOREES, a natural order of parasitical
plants belonging to that one of the five principal classes in
the vegetable kingdom, to which the name of Rhizanthae
is applied. They grow upon the roots of woody plants, in
tropical countries, rooting into their wood, from which they
The genus is most widely diffused, and abounds upon almost all bodies, whether fixed or movable, that offer an opportunity for it to attach itself to them, and are immersed in the sea. On rocks left dry at low water, on ships, on timber, whether floating or at rest, on birds and other crustacea, on the shells of conchifers and mollusks, colonies of Balanus are to be found.

Balanus Pictusus (Pictusus Molinai) as it is described in the 19th number of the Zoological Journal, by Captain Philip Parker King, R.N., in his 'Description of the Curicampa, Conchifera, and Moluscae', in a collection formed by the Officers of H.M.S. Adventure and Beagle, employed between the Years 1825 and 1835 by the southern Coasts of South America, including the Strait of Magalhães and the Coast of Tierra del Fuego.

'This cirriped, writes Captain King, 'which at Concepción de Chile is frequently of a larger size than five inches and a half long and three inches and a half in diameter, forms a very common and highly esteemed food of the natives, by whom it is called pesc, from the custom practiced of the two posterior opercular valves. The anterior and posterior opercular valves, when eaten, present some resemblance to a potato's skin, where Molina's name. It is also found very abundantly at Valdivia and at Callao, near the north of the island of Chile. It occurs in large numbers, and presents an aspect of a cactus-like appearance. The parent is covered with the prophyte, so that large branches are found composed of a hundred distinct individuals, each of which has in its turn the foundation of another colony. One specimen, in the possession of my friend W. J. Biscoeth, consists of a numerous group based on two large individuals. They are collected by being chopped off as a hatchet. At Concepción, where they are found of a size not to the southward, they are principally preserved on the island of Quinsima, which lies across the entrance to the bay: whence they are exported in large quints, are considered as a great delicacy, and indeed with some justice, for the flesh equals in palatability and delicacy that of the crab, which, when boiled and eaten cold, is very much resembling.'
in the centre of a rich expanse of corn-lands. The vicinity produces much wine as well as grain, and its annual fairs and manufactures form one of the most important sources of its wealth. The inhabitants amount to about 4300, among whom are many Jews. Close to the town are the ruins of a castle dedicated for its frequent and successful resistance to the attacks of the Turks. It has a *Comitate-Haus*, where the principal officials of the crown conduct its civil affairs. There is a Catholic, Lutheran, and Greek church, and a synagogue.

**BALTATON, LAKE**, or the 'Platten See', a lake situated in the south-western part of Hungary, and called by the writers of the 18th century, the *Sea of Tuscany* or *Mediterranean* of that kingdom. Its length, in a line running from its northernmost head east, is estimated at 40,000 klasters (about forty-six miles); it is bordered by the circles of Veszprém, Székesfehérvár, and Somogy or Sümeg; in breadth it is extremely irregular, for though it is not less than nine miles wide at Fok, it is not more than 1263 feet (under a quarter of a mile) wide. The northern peninsula of Thanyon: on the average, Casparovics states the breadth to be about 3000 klasters, or three miles and a half. Its geographical position, according to Wetland, is between 45° 15' and 47° 21' E. lat., and 110° 24' and 110° 40' E. long. The depth of this lake is very variable, but in general it may be set down as ranging from twenty-seven to thirty-six feet, the latter being its depth near Thanyon; it occupies a surface, according to Lichtenstein, of about 110 square miles, to which has been added in later times about 88,170 acres, of swamps and marshes, on the side of Somogy in particular, which its inundations render unfit for cultivation. Such portion of its waters as are not briny are supposed in part to be derived from an underground communication with the Danube; and, it is supplied, at times, with fresh water by the Szala, which flows into it at its southern extremity, as well as by nine springs which rise on its margin, and thirty-one rivulets and brooks, independently of whatever quantity it receives from the two lakes nearest to it. At certain times it is salt; it ascends from its bed. The outlet of the lake is through the Sió, near the town of Fok. Its northern sides are encircled by hills and mountains, some covered with woods and others with vineyards; the surrounding country is full of lime-wood, chestnut and yew trees, and red and white roses are abundant. The Balaton are in a state of constant motion, and not a day passes without their foaming and becoming so violently agitated as to drive in waves against its banks; this occurs mostly in the evening, and they have a gentle ebb and flow daily likewise, which some say is caused by the moon; at least it has been observed, that when the moon is nearest the full, the springs which rise through its bed flow with peculiar rapidity. These springs are supposed to bring much carbonic acid mixed with particles of iron from the depth of the earth. The water of the lake, which is beautifully clear and transparent, excepting when it becomes boisterous or a storm is at hand, and then they assume a sombre, blueish hue, which those who navigate its surface regard as a prognostic of the approaching weather. While, as is told by Casparovics, the town of Balatonföldvár, the fish is found in the lake, that the fishermen of Kesabtegy take at times from 150 to 200 cwt. of them at a single draught. There is one species, the *Fogas* (*Perca lucioperca*), which is found in no other spot; it is commonly termed the 'teethfish', or 'teeth-mouth', from four tusk-like teeth, which protrude even when its mouth is shut: in form it corresponds exactly with the pike, but in colour it is darker; it frequently weighs between ten and fifteen, and sometimes twenty pounds, which is considered very much a prize. Its flesh is delicious. Another kind of fish, the 'whitefish or swordling' (*Cypinus cultratus*), generally resembles the herring, and they appear in the lake in such immense schools during the winter season, that the fishermen haul from the under the ice, a hundred or more of them on one hook. The 'goat's claw' is another remarkable production peculiar to lake Balaton; it is a small protrusion, of the sure and shape of half a goat's claw; they are in fact nothing but mussel-like shells, which must have formed itself under the ice. The shell is thin, with the shell full-formed; another is in the case with others of the species, a glass of pure water for a few days,

![Image](image-url)
BALBI, a Venetian merchant and traveller, who lived in the second part of the sixteenth century. He was a dealer in precious stones, and the business of his trade led him to Aleppo, whence he undertook a journey to India, which lasted several years. On his return to Venice he published an account of this journey, *Itinerario dell' Indie Orientali,* 8vo. Venice, 1590, which was reprinted in 1600.

Balbi's narrative is curious, as it refers to an epoch when India was much less known than it is now, and was in a state very different from the present. The Portuguese were the only Europeans who had ventured into that country till then, and their establishments on the coasts were numerous and strong. Those Venetian merchants who ventured so far appeared to have been upon good terms with the Portuguese, and to have enjoyed security under their protection. Balbi writes that the inhabitants were of a strange and surpassing stature, of a strange and surpassing stature, of a style of building so that what he himself saw, and also of his credulity with regard to matters which he knew only from hearsay. He is very minute and exact in particular of mercantile information, but his statements are very likely of his story and geography of the countries which he visited. Balbi proceeded from Aleppo to Bir on the Euphrates, and then embarked on the river, which he represents as dangerous, owing to rapids and shallows. He landed on the coast at the mouth of the Euphrates and at a bay called Bagdad, which he calls New Babylon, and to which city he proceeded by land. From Bagdad he descended the Tigris to Bussum, and there embarked for Hormuz, where the Portuguese had a fort, the sovereign of that barren little island being tributary to them. All provisions came from the coast of Persia. Balbi speaks of the pearl fishery which was carried on at Bahrein and other islands in the Persian Gulf. From Ormuz he proceeded to Diu, another factory of the Portuguese at the entrance of the Gulf of Cambay, and there to Goa, the capital of Portuguese Malabar coast. He gives a full account of the trade in those places, of the various goods brought to the market, their prices in Venetian currency, the duties, freights, &c., and he says he went to Cochin, and thence to Capo Comorin to St. Thomas, or St. Thomé, as he calls it, another Portuguese factory. He gives a curious sketch of the missionaries, and their mode of converting the people. He saw the king of Cochin, and another Indian chief, who came to the house of the Jesuits at Cochin to settle amicably certain disputes with those fathers, who had sent numerous missionaries inland, and had converted so many of the people, that one of the native kings was afraid of losing his crown. "The Jesuit fathers," says Balbi, "go about armed, and followed by great numbers of the converts: one of them in particular, a Genoese by birth, rules about the country, he and his men, armed with muskets, and carrying before them a standard with the image of the Saviour, and concerning whom they follow him wherever he goes, which terminates the Papacy, that it is a wonder to see it." At St. Thomé Balbi embarked with several Portuguese merchants for the kingdom of Pegu, where he arrived in the year 1561. His account of that residence is extremely interesting. The king of Pegu was then a powerful king; Ava was subject to it, and even Siames was tributary. The ship in which Balbi was sailing arrived at Naga, the goods and passengers were taken in an unexpected manner, and in which they ascended the river Inwa for eleven days of which time they arrived at Myinn, and proceeded by land to the capital of Pegu, which was twelve miles east from the river. Balbi represents the town as very large, divided into old and new quarters, surrounded with walls and ditches. A number of large crocodiles were kept in the ditches to prevent any one from swimming over. The houses were built of wood, and very dirty. The king's palace was in the middle of the new town: the old town was occupied by the trading people. The town of Pegu has been since destroyed by the Burmans, who conquered it about the middle of the eighteenth century, and stood against the English. Balbi had an audience of the king, who inquired about the traveller's native country, and being told it was a republic and had no king, he burst into such violent laughter at the novelty, that it brought on a fit of coughing to which he died. He was such an excellent speaker of another language, that he knew something of European politics, for he asked Balbi the name of the sovereign who had recently conquered Portugal (Philip II. of Spain). The king, according to Balbi, said, "He is an Indian," and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good." The king returned to his bed, and Balbi added "Indian." The king returned to his bed, and Balbi added "good.”
tor, after being twice consul, was elected emperor by the senate in opposition to the usurper Maximiinus, who was supported by the legions in Germany. The two Gordiani, father and son, who had been proclaimed shortly before in Africa with the approval of the senate, were overpowered and killed by the soldiers of Capellinus, the governor of Mauritania, who had taken the part of Maximinus. [Gordians] Maximinus himself, hearing that the senate had outlawed him, was preparing to march from Illyricum into Italy. Rome was in great consternation. The senate in their exasperation selected Caius Pupienus Maximus, an experienced officer who had risen from station to the highest ranks, and Balbinus, a man of fortune and connections, and of a mild conciliatory character. As the two emperors elect were proceeding to the Capitol to offer sacrifices to the gods and the people, soldiers stopped the way, demanding an emperor from the family of the Gordiani, who were popular favorites. A boy twelve years of age, the son of a daughter of the elder Gordiani, being found was slain Caius, by the name of Marcus Antonius Gordianus, afterwards known in history as the Third Gordianus. After the tumult was thus appeased, and the customary games in the Circus were given for the amusement of the Roman people, Maximinus set off for North Africa, and Balbinus, seeing he remained at Rome. A serious tumult broke out shortly after in the city, and two praetorian soldiers, having entered unarmed the senate-house to listen to the discussions, were stabbed to death by some of the senators, who pretended that they were spies of Maximinus, and that guards were about to overawe the death of their comrades; and the people, on the other side, exalted by the senators, ran to attack the praetorians who defended themselves in their camp, and killed many of the citizens. The people next cut off the conduits that supplied the city, and the praetorians salted up the bodies of the deceased in the forum, and repulsed the besiegers, and set fire to a district of the city. The greatest disorder prevailed. when Balbinus, who at first had remained inactive, came out to endeavour to part the two contending parties, his clothes were assaulted with stones, and wounded. As a last expedient, the emperor exhibited to the multitude the boy Gordianus, who was slain in the imperial purple and lifted upon the shoulders of a tall man. The generation which both the people and the soldiers felt, that the name of Gordianus produced the desired effect, and the tumult was appeased. Meanwhile Maximinus had had leave to Aquileia, where he was killed in a mutiny by his own soldiers, who afterwards made their submission to Maximinus: and the latter returned to Rome to consult with the last surviving officer of the part of Maximinus. The people of Rome were overwhelmed with joy, but the soldiers were dissatisfied, seeing their influence on the decline; they remembered that Maximinus was an emperor of their own choice. Balbinus therefore, on the advice of the senate. Proscriptions on the part of the senators exasperated these feelings. A body of Germans whom Maximinus had led back to Rome, and in whom he chiefly trusted, having evaded the call to return, attacked the palace of the emperors. Maximinus, being informed of this, sent for his trusty Germans; but Balbinus, through some suspicion of the designs of Maximinus, opposed the order; in consequence of which the praetorians had time to prepare, and rushing in, one set burned down the palace, another, seised both emperors, whom they dragged ignominiously towards their camp, insulting and tormenting them by the way. Hearing that the Germans were coming up the street, the praetorian soldiers and senators, who were in the street, then took the boy Gordianus to their camp and proclaimed him emperor. The people likewise acknowledged him, and the senate was obliged to do the same. A.D. 242. The two murdered emperors were no more killed by them, but two praetorians, tailed out on the war against the Persians, and also against the Sarmatians and Parthians. They were both regretted in private, Maximinus for his firmness, tempered by moderation; and Balbinus for his affability and his elegant manners and taste. Balbinus was fond of luxury and refinement, and was also a lover of literature: he appears to have had in his power no mean reputation in his time. His house, inhabited by his family, was still existing in the time of Dacierlan. (Julius Capitolinus, Historia Caesarum.) Maximinus had foreseen his fate; and he told Balbinus, at the time of their election, that the hatred of the soldiers would prove fatal to them both. The account of the transactions of the reign of these two emperors affords a striking picture of the social and political condition of Rome at the period in which followed that of the Antonines. In the century which elapsed between the death of Commodus and the ascension of Diocletian, no less than thirty emperors, besides pretenders, followed each other in rapid succession; and of all these only two died a natural death, viz. ...}

[Balbo, Vasco Nuñez De, was born in Jerez de las Caballerias, in Estremadura, about the year 1475. His family, the Ojeda and Diegos de Núñez projected a voyage of discovery, the king having granted them the privilege of colonizing and governing the lands which they might discover from Cape Vela (or de la Vela), in 12 2/3° N. lat., and 72° 9/10° W. long. to Cape Gracias-a-Dios in 13° N. lat. and 82° 45/60° W. long. The portion of territory allotted to Ojeda extended as far as the middle of the gulf of Urabi (or Darien), and that allotted to Nuñez, from that point to Cape Gracias-a-Dios. Both chiefs set sail almost at the same time. Ojeda arrived first, and landed near the site of Cartagena. After suffering severe losses from the natives, he was about to give up the enterprise, when he discovered a port in Darien, where he determined on forming a settlement on the eastern side of that gulf. With great difficulty he built a few houses, to which he gave the name of San Sebastian. Daily expecting Bachiello Enciso, a lawyer who belonged to the expedition, and who had remained at Española to load two ships with men and provisions, Ojeda at last determined to sail in quest of him. Entrusting the command of the settlement to Francisco Pizarro, he proceeded to Española, where he died in extreme poverty. His men, after waiting some time in vain for the return of the ship, abandoned Cartagena, and sailed for Cartagena. On entering the port they discovered the vessels of Enciso. The governor of Española had made a law in that island, that no one should quit it before he had paid all his creditors. Balbinus, who was in debt, and was anxious to get away from the island, hid himself in a cask in Enciso's ship, and when the vessel was far from land presented himself to Enciso, who, though much irritated at the trick, was at last reconciled by the intercessions of Balbinus and his friends. Enciso, in learning the absence of Ojeda, claimed the chief command; and his men, after some resistance, submitted. He ordered them to proceed to the gulf of Darien; on entering which a violent storm overtook them, and after struggling with the elements for a long time, the vessel of Enciso was violently driven against a rock on the coast,
and the men, 140 in number, saved themselves by swimming. The settlement they found reduced to ashes. They knew that Enciso attempted to retire to the coast. In this state of despair Balboa said, "I remember that on those coast twenty years ago, a town situated on the side of a large river on the west side of the gulf: the inhabitants were of a mild character, and did not use poisoned arrows. The suggestion of Balboa was no sooner made, than the Spaniards, accompanied by a body of the natives, marched towards the place; and the event proved the correctness of his information. After a very obstinate combat with the Indians, the Spaniards put them to flight, entered the town, found the body of that chief, and found himself in possession of a vast country.

In the midst of these disputes a ship arrived from Spain with men and provisions for Nicuesa. The captain divided part of his stores among the settlers; and this circumstance determined the parties in favour of Nicuesa. He followed him, overcame the vessel of that chief, and found him near Portobello in great distress. Nicuesa, indignant at the state of insubordination in the colony, sailed towards the settlement, but was not allowed to land. After intimidating permission, which was refused, he escaped on the second voyage of Balboa. Here he was seized by order of his adversaries, and placed in a miserable vessel, with seventeen men who chose to follow him. The vessel sailed for Spain, and it is supposed to have been lost at sea. The history of Enciso and Balboa now resumed their dispute, and Balboa gained the victory. Enciso was placed under arrest, tried, and condemned to imprisonment and the loss of all his property, for having usurped the command of the country. He was the greatest enemy to the liberty of his countrymen, for having given Balboa the benefit of his advice, and then reduced all that Balboa became acquainted with a very powerful castic, who gave him much useful information about his own country, and also about very powerful and rich state, which, as he said, was six suns, or days, to the south of his own country. This was a country very rich in provisions and in gold. He said Balboa and his men returned to Darien, where he found a reinforcement, which Columbus had sent from Spain. The provisions brought by that vessel were soon consumed, and they had to suffer the misfortunes of that disastrous storm in a destructive and inextinguished. Upon this Balboa sent a certain Valdivia to Columbus, giving an account of the country discovered, and requesting a fresh supply of provisions and 1000 men, that he might be able to remain in the country without being obliged to destroy the natives, and also to undertake the conquest of the country of which he had received intelligence.

In the beginning of September, 1513, Balboa embarked some of his men in one brig and sailed from the city, and sailed for the island near the coast of Veragua, where he left the vessels, and proceeded into the interior. By his prudent policy he won several tribes of Indians, and after a peaceful journey of about a month, he arrived on the 29th of September, on the coast of Veragua, where he first saw the Pacific Ocean burst upon him. Affected at the sight, and falling upon his knees, he shouted the Almighty for having granted him the favour of discovering those immense regions, and then addressing his Indians, the object of his mission, the object of his desire, and the reward of all our toils; behold the sea which was announced to us, and the shores contain the riches which were promised. You are the first who have visited these shores; you are the only witnesses of our king, and of leading its inhabitants to the knowledge of the true religion. Be faithful and obedient and have hitherto been, and I promise you that none shall equal you, either in glory or riches. His companions all embraced him, and promised to be faithful to the last moment. He then cut down a large tree, and depriving it of its branches, erected a cross upon a heap of stones, and wrote the name of Fernandina and Isabel on the trunks of several trees round about. Descending with his companions to the sea-shore, Balboa, in full armour, having in one hand his sword and the standard of Castile in the other, stood upon the sand, all the natives of those countries below him, in the presence of a king, said, 'Long live the high and powerful king and queen of Castile. In their names I take possession of these seas and regions; and if any other people, either Christian or pagan, should presume to hold possession of these countries, I am ready to oppose him, and to defend the right of my lawful possessors.' A notary then registered this act, by which the Spaniards considered themselves to be the lawful possessors of all that country. To that part of the sea they gave the name of Golfo de San Miguel, on account of its having been discovered on Michaelmas day.

Balboa, after visiting some of the islands in the gulf, returned to Darien. The fatigues of the journey brought upon Balboa a very dangerous fever, which obliged him to be carried part of the way on a hammock to the settlement, where he arrived on the 19th of January, 1514. So prudent and conciliating had been the conduct of Balboa towards the natives, that he having left a few of his men, who were unable to return to the vessel, Balboa was immediately made a prince of the Pacific, the chief of the tribe went out to meet him on his return, and presenting to him his soldiers, said, 'Receive, brave man, thy companions unjured, as they entered under my roof; and may He who gives us the fruits of earth, and causes the thunders and lightning, preserve you and them.'

On arriving at Darien, Balboa gave those who had remained in the colony their proportionate share of the riches acquired in the expedition; he also sent a messenger to Spain, to give an account of what he had done for himself entirely to the improvement of the settlement. In the mean time Enciso, by the reports which he had spread at court of the misfortune of Nicuesa, and the bad state of affairs at Darien, had made the town of Panama, and the inhabitants, Balboa, that Zamudio, who attempted to exchange his friend, was ordered to be imprisoned, and was obliged to conceal himself. The government determined to appoint a person to supersede Balboa, and to try him for his rebellion. That commission was given to Pedrarias, a nobleman. The squadron of Pedrarias, consisting of 1500 men, arrived at Darien in 1514. Such were the reports of his ambition which the enemies of Balboa had spread in Spain, that Pedrarias expected to find him living in the enjoyment of power, in prosperity, and in peace. He was astonished to find him dressed like the meanest of his men, directinng and assisting some Indians in roofing a house.

Pedrarias communicated to Balboa the orders which he had received from the government to enquire into his conduct towards Enciso and Nicuesa, which his enemies attributed to him. Balboa was placed under arrest and tried. He was acquitted of the latter charge, but condemned in a heavy fine as damages to Enciso, on paying which he was set at liberty. Pedrarias, however, kept him without any employment in the colony, the consequence of which was, that, through ignorance of the country and mismanagement, the settlers were reduced to such a state of misery, that in the space of six months that Balboa had charge of the country, he had astonished all by his knowledge of the country, and by his ability to direct and assist his Indian subjects. The new adventurers, expecting to find gold in abundance everywhere, ranged about the country in search of it, and not finding the object of their wishes, treated the poor Indians with the greatest cruelty. In all their excursions into the interior they were repelled by the savages, and those caiques who from the beginning had been friends and allies of the Spaniards were, through ill treatment, changed into their enemies.

In the meantime, the friends of Balboa at home had exerted themselves in his favour, that they obtained him in 1515, the appointment of governor of Darien and the island under Pedrarias. Balboa had informed the government of Pedrarias's mismanagement: his letter is dated October 29, 1515 (after his arrival). Balboa was not in consequence of that letter, for he arrived at Madrid after. Pedrarias was unwilling to give Balboa his authority, at which the latter, highly displeased, sent his
friend Garabito secretly to Cuba, to procure sixty men, with the view of making a settlement near the Pacific. When Garabito returned, Pedrarias had given to Balboa his rank and title. Garabito landed his men about twenty miles from Darien, and informed Balboa. The information, several times repeated to Pedrarias, at which he was so indignant, that he ordered Balboa, feigning his imprisonment; but on the entreaties of the Bishop Quevedo, and his own wife, Balboa was released and reconciled to his enemy. This reconciliation was further cemented by the marriage of the daughter of Pedro de Quiroga to the then in Spain. Notwithstanding this apparent reconciliation, Pedrarias kept Balboa at Darien, and was always afraid of employing him. In 1517, Pedrarias, having been unsuccessful in all his attempts to reduce the country, sought his fortune in America, and finding himself in Darien, found a colony there, and to build ships, in order to visit some of the islands in the Pacific. Balboa established his colony at Acla, taking an active part himself in the labour that was required, both in the field and in the town. With his men he cut down wood, and built four boats; but unfortunately the timber was so bad, that they proved unfit for service. This disappointment by no means deterred Balboa. He found better timber, built two briggs, and taking in a few of the fishermen of Acla, he sailed with 130 men, gulf, and landed on one of the islands. Here having learned that Lope de Sosa had been appointed by the government to supersede Pedrarias, he sent one of his captains to Darien, to procure positive information, and to prevent the operations of the west, an attempt for some time forming in the heads of the vessels. 'Go,' said he to Garabito, the captain, 'and if Pedrarias is still governor, he will supply us with all we may want, and by the favours of God, we will immediately sail for our destination.' It is said that a soldier who, as Balboa stood on the beach, made overtures to him, went and informed Pedrarias that Balboa intended to go on a voyage of discovery on his own account. Others say that Garabito, having fallen in love with an Indian woman kept by Balboa, had determined to work his return to Acla, and to give the same information to Pedrarias. However this may be, Pedrarias, immediately after the arrival of Garabito at Santa Maria, ordered Balboa to return to Acla. Before he arrived at that place, he was informed by his friends that Pedrarias had determined to effect his ruin, but Balboa, trusting to his inconstancy, went on till he met Francisco Pizarro with an armed force, who delivered to him the order of arrest from Pedrarias. When Balboa received this intelligence, he said to Pizarro in a friendly way, 'What is the matter with me? Am I summoned to meet me?' Having arrived at Acla, he was thrown into prison, and tried on the various charges on which he had before been acquitted. Although the judge found him guilty, he recommended him to mercy, in consideration of the affection he had for the king. The judge answered, 'If he is a criminal, let him die for his crimes.' He was accordingly condemned to be beheaded. When Balboa was taken to the place of execution, and the public cry proclaimed the name of the dominion by which the traitor and usurper of the dominions of the king, he said with a firm voice, 'That is a gross falsehood; as sure as my last moments are near at hand, I never had even a thought except of the most loyal and faithful devotion to my king, nor had any other desire than to increase his dominions, to be united in my power and ability.' Balboa died with the firmness of a hero, in his forty-second year. Herrera says that Balboa was a tall and graceful man, of a pleasing countenance, with flaxen hair; and that he had an acute understanding, and was very apt for learning. He was patient and fatigued always took the lead, and was the last in enjoying rest and comfort. He was,' says Quintana, 'rigid in his discipline, but when his soldiers were sick or wounded, he visited and consoled them as a brother, and he was on the most absurd occasions seen in pursuit of game, and even to dress it himself, for his sick men.'

(See Herrera, Historia General de las Indias Occidentales, Decada first and second, Quintana; Fidus de Espaoles Ilustr, tomo. ii., Navarrete, Casco, and the Commentarios de los Estados desde fines del Siglo XIV., vol. iii., Madrid, 1829.)

BALCASH, THE LAKE OF, called also BALKASH and BHALKASH-NOIR, is the largest of the numerous lakes which exist on the western side of the high table lands of central Asia and descend toward the north-west. It lies between 52° and 54° N. lat., and 72° and 75° E. long., in the country of the Zungares, or, according to the present political division, in that of the provinces of that empire which is called Thian-shan Pełu (Northern Thianshan), or the government of Iii.

The extent of this lake is not known. On the most modern maps it is said to extend in latitude from 52° to 54° N., or a distance of about 350 miles; in longitude, from 72° to 75° E., or 330 miles. Its breadth would give for its length about 120 miles; and this is probably not too much, as the caravans going from the banks of the Irish to Tashkend and Bashkazar, which is the city of Thian-shan, together with its shores. Its average breadth seems to be considerable.

It would be very interesting to know its elevation above the level of the sea, as it is placed nearly in a straight line between the lake of Zaisang, which, according to Humboldt, is 1200 fathoms below the sea-level, and the Caspian Sea of the Aral and the northern part of the Caspian Sea, of which the former is 331 and the latter 378 feet below the sea-level.

On the east and on the west the lake is inclosed by mountains, which terminate not far from its shores. Those on the east separate it from the lake of Alak-kul; and those on the west and south-west, from that of Issi kül; both ranges are called Ala-tau, though they are divided from one another by the lake and the wide valley of the Ili river. On the south and south-west, where the lake is inclosed in one hundred miles in length, which, from the nation that inhabits it, is called the Stepe of the Khihrig Kasak, and continues to the northern parts of the lake of Aral and the Caspian Sea. It seems to descend by a very gentle slope to the north, all along the side of the lake, and the south and south-east of the lake opens the wide and extensive valley of the Ili, which, less than eighty years ago, was the principal seat of the independent and powerful Zungares, from whom this country was called Zungaria, and the great and celebrated Russian empire, likewise received from the Chinese the countries to the south of the lake of Balcash. The river Ili, which traverses this valley in all its length, has, according to the Chinese geography, a course of upwards of 240 miles; it empties itself into the southern extremity of the lake, which has no outlet, though it receives, besides the Ili, the water of several other rivers on the north and east, of which one or two run perhaps a hundred miles and upwards. (Humboldt: Ritter's Atlas.)

BALCON, BALCONCIA. Derived from the Italian word balco, or palco. (Dizionario della Crusca.) Balcony is often used by Boccaccio in his Novelle, from which circumstance we may conclude that balconies were very common in Italy at that time. (Palladio, Architettura.) The box of the theatre; and in the great theatre at Bologna, built, we believe, by Palladio, each box or balcony has a balustrade. [See Balustrade.]

The balcony is much employed in edifices of modern date. The object of balconies is to give the inhabitants of a house a better view of things in the open air. They are supported on a series of posts, or pillars, at the sides, and the floors of rooms, and supported on cantilevers or brackets, and sometimes, though more rarely, on columns of wood or stone. The floor of the balcony is laid on the cantilevers, and the sides are inclosed with a rail of iron, or a balustrade of stone. Where balconies are formed, the windows are for the most part made to open down to the ground. In London cast iron railing, variously designed, is most commonly used. There are, however, balconies with balusters of stone sometimes placed single, sometimes in groups of two or more.

The Goldenellis's Hall, at the back of the Post-office, is an example of the former: the balustrade inclosing the space above the columns of the Quadrant at the end of Regent-street in London, and the Crescent at the end of Portland-place are examples of the latter: they have a very slight projection, and rest not upon cantilevers, but upon the basement wall, as in the Banqueting-house at Whitehall. [See Basement.] Since the introduction of Grecian architecture some balconies have been decorated with volutes and other Grecian ornaments, instead of the baluster used by the Italian architects. In Venice there are very magnificent balconies in the Gothic taste remarkable for their richness. It is uncertain when balconies were first introduced into England. So early as the 13th century, there were probably the oldest examples existing. Elizabethan architecture shows 822
some very elaborately designed balconies; but perhaps the nearest example to the palco of the Italians will be found in some of the colleges of Oxford. Magdalen College contains an example of such a balcony in a pulpit supported on corbels. [See Castell.] (Mackenzie and Pugin, Specimen of Gothic Architecture.)

BALD BUZZARD (Zoology), one of the English names for the Osprey or Fishing Eagle; the Fishing-Hawk and Fish-Hawk of the Americans; Aquila Pescatrice of the Italians; Halicnurus and Morphura of Aldrovandus; Balbius Angorum of Ray; and Falco Halicurus of Linnæus; forming the typical if not the only species of the subgenus Pandion (Savigny); for Cuvier limits the subgenus to this species; but Lesson thinks that the Jokokareu (Falco Ichthyopterus of Horned) should be added.

The Bald Buzzard, Pandion halicurus, appears to be widely diffused. Temminck observes, that it is generally distributed through Europe, and that it abounds in Russia, Germany, and Switzerland. It is also found in Egypt. In British islands it seems to be comparatively rare. Willoughby records one that was shot at Penzance with a mullet in its claws; and White mentions another that was shot at Finnhamp Pond, near Selborne, while it was sitting on the handle of a plough and devouring fish.

"It used," says White, "to precipitate itself into the water and take its prey by surprise.

It has been seen at Kilmarney in Ireland; and Montagu speaks of its frequent occurrence in Devonshire. Selby says, "I have seen them upon Loch Lomond, where they are said to breed; but they are far from being numerous in Scotland," Montagu corroborates this; for he says, in his Ornithological Dictionary, "It is said to make its nest generally on the ground by the side of water, composed of flags and rushes, but we once saw the nest of this bird on the top of a chimney of a run in an island on Loch Lomond in Scotland; it was large and flat, formed of sticks laid across, and resting on the sides of the chimney, lined with flags.

That it is found near Rome is evident from Bonaparte's Sibyls. Comparato de' d'Ornithologie di Roma e di Pidocchia.

In America it is said to be found in the summer from Labrador to Florida; and it is even stated to have been seen in Cayenne: indeed Latham gives it the name of Cayenne osprey. But it is in the more temperate climate of the New Continent that the bird abounds; and there its coming is eagerly watched by the fishermen as the harbinger of the shoals of fish that approach the shores in the spring.

Towards the close of March," writes Nuttall in his interesting Manual, "or beginning of April, they arrive in the vicinity of Boston with the first shoal of alewives or herring, but yet are seldom known to breed along the coasts of Massachusetts." The same author attributes their departure from New York and New Jersey, as early as the close of September, or at farthest the middle of October, when they migrate farther south, to the gong of the fish on which they are accustomed to feed; for they principally live on fish, which they take by diving into the water with such violence, that, as Pennant observes, the Italians have applied to the bird the epithet piscivorus.

But the bald buzzard is haunted by a persecutor that often snatches from it its hard-earned prey. Catesby describes its feeding habits in the following words: "The white-headed sea-eagle, Halicurus lucrocephalus; and Wilson gives the following vivid description of such a scene,—a description which those only who have devoted themselves to watching the habits of animals can give. He relates, "...of a noble orthogonial, speaking of the white-headed eagle, as he saw him in America, "on the high dead limb of some gigantic tree that commands a wide view of the ocean, he seems calmly to contemplate the motions of the various flocks of birds that pursue their busy avocations, now the snow-white gulls slowly winnowing the air; the busy terns coursing along the sands; trains of ducks streaming over the surface; silent and watchful cranes, stent and wading; graceful swans, and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one whose action instantly arrests his attention. By his wide curvature of wing, and sudden suspension in the air, he knows him to be the fish-hawk, settling with the devoted vixem of the deep. His eye kindles at the sight, and balancing himself with half-opened wings on the branch, he watches the result. Down, rapid as an arrow from heaven descends the distant object of his attention, the roar of its wings reach t he ear as it appears in the deep, making the foam around. At this moment the eager looks of its eagle are all on tour; and levelling its neck for flight, he sees the fish-hawk once more emerge struggling with its prey, and mounting in the air with screams of exultation. These are the signals for our hero, who, launching himself into the air, instantly gives chase, and soon gains on the fish-hawk. Each exerts his utmost to mount above the other, displaying in these encounters the most elegant and sublime animal evolutions. The unnumbered eagle rapidly advances, and is just on the point of reaching his prey, when a sudden scream, probably of despair and honest exaltation, the latter drops his fish; the eagle, poised himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp ere it reaches the water, and bears his ill-gotten booty silently away to the woods.

The bald buzzard is a powerful bird, and the females, which are the largest, as indeed they are among most of the birds of prey, sometimes weigh five pounds. The plumage, which is very dark, is that of a girl, which, in resisting the fluid into which it plunges for its prey, is white below, with a few brown streaks and speckles on the throat. There is, indeed, a patch of brown on the upper part of the breast in young birds. The crown of the head is light brown, edged with white, and the back of dark brown from the eye to the shoulders. The whole of the upper part of the body is brown. The feathers on the thighs are close, and the legs short, stout, and greyish in this part of its organization we see a beautiful instance of adaptation to its habits. The close feathers resist the action of the water, while the naked lower toe is much larger than the inner one, and capable of being turned backwards; the under surfaces of all the toes are also very rough and covered with protuberances, which enable it to secure its slippery prey. The sides are of a lemon colour.

The bald buzzard, or osprey, lives from two to four eggs, a little larger than those of the common kite, of a reddish brown, with the back, neck, and head streaked with bluish-white; but the lower parts, the throat, and belly, are of a light lemon-yellow.

During incubation the male often feeds the female. Nuttall, in his Manual, gives the following account of their habits in the breeding season:—

Unlike other birds of prey the young may be almost considered gregarious, breeding so near each other, that, according to Mr. Gardner, there were on the small island on which he resided, near to the eastern extremity of Long Island, New York, no less than 500 nests with young. A Mr. Johnson observed in 720 eggs at once. I have seen them nearly as thick about Robeshott Bay, in Delaware. Here they live together at least as peaceably as rocks; and so harmless are they considered by other birds, that, according to Wilson, the crows blackbirds, or
and zeal, but in defending the prerogatives, jurisdiction, and immunities of his abbey, he found himself entangled in disputes with the clergy and lay authorities of Guer- tessa, and with the prince himself. Annoyed, perhaps, at these controversies, he absented himself, and repaired to Rome, where Cardinal Cintio Aldobrandini, nephew of Pope Clement VIII., became his friend, and invited him to live in his house. Baldi resigned the abbacy of Guertella, retaining an annual pension from its income. Having left Rome, he returned to Urbino, where the Duke Francesco Maria della Rovere sent him, in 1612, as his envoy to Venice, to congratulate the new Doge Andrea Memmo. On this occasion Baldi pronounced an elegant oration before the Venetian senate, which so pleased the doge that he presented the orator with a massive gold chain of considerable value. Baldi wrote a vast number of works in prose and verse, the greater part of which have been published. Among those which appear to have been published are a poem on navigation, and several elegies, which are not without merit. He painted the Italian rustics not as imaginary Arcadian beings, such as those of Guarino, Fontenelle, and Gesner, but as rustic poetry are, describing their habits and employments, and deriving a moral from their contentedness and their humble enjoyments. Baldi wrote also a poem called Defispo, purporting to be a chronicle of the vices and merits of Rome from its foundation to the epoch in which he lived, in the form of a prophecy which he imparted to the sibyl of Cumae, after the manner of the Cassandra of Lyceophor. Of Baldi's prose works we have several dialogues, one on 'dignity,' in which he gives a definition of the meaning of honour, which is remarkable for its philosophical justness; and another on the qualities and virtues requisite to the possession of freedom, considering the age and country in which he lived. He also compiled a short chronicle of all the mathematicians known from Euphorbus (mentioned by Diogenes Laertius in his Life of Socrates) down to his own time. This was but the outline of an extensive treatise of biographies of which Baldi intended to write. He also published two Latin works in illustration of Vitruvius: Scamillim impares Vitruviani a Bernardino Baldo nova ratione explicati, Augs- burg, 1612; and Vitruvianorum Significatio, ibid., with a life of Vitruvius. Both have been inserted by the Marquis Poleni in his Exercitationes Vitruvianae, Padua, 1741. Two inedited historical works of Baldi were published only a few years since: Vita e Fatti di Guido mangiavino, Montepeletto Duc d'Urbino, 2 vols., Milan, 1821; and Vita e Fatti di Federico di Montepelletto Duc d'Urbino, 3 vols., Rome, 1824. These contain some curious information about the Feltre dynasty in Urbino, and about the power of Cesar Borgia’s rule in the Romagna. (AfA, Vita di Bernardino Baldi)
Baldwin, who had heard of her great beauty, went to meet her at her landing. He prevailed on his father to accompany him to Halberstadt, where they were privately married, as Baldwin could not expect to obtain her father's consent, on account of his former hostility to him. Charles, incensed at the news, sent his son, Louis the Stammerer, to make terms with Baldwin, and Baldwin was so terrified by the prospect of being made prisoner by Baldwin to be plunged, dressed and booted as he was, into a large cauldron of boiling water, in the market-place of the town. Baldwin made war in Normandy in favour of William, son of Robert Curthose, and was severely wounded at the siege of Rouen; he died soon after, in 1119. He was succeeded in the county of Flanders by Charles of Denmark, son of Adela, the daughter of Robert the Frislander and Baldwin's aunt. Baldwin died in 1123, leaving as his dominions to Baldwin IX., afterwards Emperor of Constantinople. (Oudergheer, Chroniques et Annales de Flandre.)

Baldwin II., Count of Flanders, son of the above, married Alfrith, daughter of Alfred of England. He made war against Eudes, count of Paris, who had usurped the county of Flanders. He also made war against Charles the Simple, the rightful heir, after the latter had ascended the throne. Baldwin died in 919, and was succeeded by his son Arnoul.

In the style of the handsome beard, succeeded Count Arnoul the younger in 928. He married a daughter of the Count of Luxembourg. During the troubles that followed the death of the Emperor Otto III., the Count of Flanders seized upon several places in the neighbourhood of his territory, among others, St. Omer and the county of Hainault, which he afterwards defended against the united forces of the Emperor Henry, King Robert of France, and the Duke of Normandy. It was agreed at last that he should retain Valenciennes, as an imperial fief, as well as the island of Walcheren, as a fief of Countess of Zeeland. Notwithstanding the opposition of the Count of Holland, who asserted a previous claim to them, Baldwin then handed over the land of Adele, daughter of Robert of France, for his son Baldwin. It is recorded in the chronicles, that he held an assembly of the prelates and nobles of Flanders at Oudenaarde; and this appears to be the first mention made of the states of Flanders. Baldwin III. died in 1034.

Baldwin IV., called by some 'of Lisle,' and by others 'the Unhappy,' was a numerous and powerful king. He conquered several districts on the right bank of the Scheldt, which river had till then formed the boundary between the territories of France, of which Flanders was considered a part, and those of the German Empire. The defeat of the French at Bouvines, which was the condition on which the Emperor for the same; and thus the Counts of Flanders were vassals of both the crowns of France and Germany. Baldwin gave his daughter Mathilde to William of Normandy, afterwards king of England. Henry I. of France, at his death, appointed Count Baldwin guardian to his son Philip, then a minor. Baldwin fulfilled his trust with great honour and integrity; and defeated the Gascons, who had revolted. He then accompanied his son-in-law, William, to the conquest of England; and for his services on that occasion William assigned him and his successors a yearly pension of 300 marks of silver out of the English treasury. Baldwin died in 1067, and was buried at Lille.

Baldwin V., called the Good, son of Baldwin IV., was at his rising persuaded the Countess Richilde, of Hainault, who brought him the lordship of Mons before he became Count of Flanders, succeeded his father, Baldwin IV. He died in 1079, leaving two sons, Arnoul and Baldwin. After his death, his brother the Frislander, having conquered the principality of Friesland, invaded Flanders, and defeated his nephews and Philip of France, who had come to their assistance, in a battle near St. Omer. Arnoul was killed; and Baldwin, after a time, renounced his claims, and acknowledged the county of Hainault as the duchy of his uncle and his descendants, and kept for himself the county of Hainault, which he had inherited from his mother. Thus Baldwin has been reckoned in the succession of the princes of Flanders, from 1119.

Baldwin VII., grandson of Robert the Frislander, succeeded his father, Robert the younger, as Count of Flanders, in the year 1119. He was called Baldwin Ephraim, from the nature of a kind of axe used during his reign in the numerous public executions of the outlaws who infested the country, among whom were many turbulent feudal lords. It is stated in an old chronicle, that one Peter of Ossthem, having seized two cows belonging to a poor countrywoman, was arrested and taken to bravely fight for his country; but Baldwin, on his return, made him to be dressed by Baldwin to be plunged, dressed and booted as he was, into a large cauldron of boiling water, in the market-place of the town. Baldwin made war in Normandy in favour of William, son of Robert Curthose, and was severely wounded at the siege of Rouen; he died soon after, in 1119. He was succeeded in the county of Flanders by Charles of Denmark, son of Adela, the daughter of Robert the Frislander and Baldwin's aunt. Baldwin died in 1123, leaving as his dominions to Baldwin IX., afterwards Emperor of Constantinople. (Oudergheer, Chroniques et Annales de Flandre.)

Baldwin II., Emperor of Constantinople, was the son of Baldwin I. and also the son of Margaret Countess of Flanders. He became Count of Flanders by the death of his mother in 1119, and the following year succeeded his father as Count of Hainault. After his accession, he did homage to the Emperor Henry V. at Strasburg, as emperor of the German empire, and to King Philip II. of France, at Compiegne for the county of Flanders. Soon after, however, he made war upon King Philip for the recovery of the province of Artois, which had been detached from Flanders. Several battles were fought among the French and the Counts of Flanders; in which the French were defeated and driven from their territory, notwithstanding the opposition of the Count of Holland, who asserted a previous claim to them. Baldwin then handed over the land of Adele, daughter of Robert of France, for his son Baldwin. It is recorded in the chronicles, that he held an assembly of the prelates and nobles of Flanders at Oudenaarde; and this appears to be the first mention made of the states of Flanders. Baldwin III. died in 1034.

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the Propontis without meeting any opposition, and cast anchor at Chrysopolis opposite to Constantinople. The plan of attack being formed, Baldwin, who had with him the best archers and a numerous body of brave knights, was appointed to lead the van. Having crossed the Bosphorus, they landed near Galata, and easily defeated the few Greeks who ran away, the usurper Alexius setting the example. The Venetian fleet forced the entrance of the harbour, and Dandolo gained possession of part of the ramparts on that side. Meanwhile a revolution took place within the city: the usurper Alexius being assailed by his own subjects, particularly with regard to the acknowledgment of the supremacy of Rome. A fire, too, which originated in the fanatics of some Flemish crusaders, who were sacked at the sight of a mosque, for the use of the Saracens, traders within the walls of the imperial city, and which raged for several days, destroying some of the most populous quarters of the town, aggravated the hatred of the Latins against the Latin intruders. The army, on their part, was joined by the Emperor Isaac demanding an immediate fulfilment of the stipulations agreed upon. Hostilities broke out again in January, 1204, and this was the sign for a new revolution in the city. A merchant's family, who enjoyed the confidence of young Alexius Angelus, betrayed his friend, cast him into a dungeon, and murdered him. The old Emperor Isaac died at the same time, it was said, of terror and grief. Alexius Ducas, called his brother, who was a tall man with shaggy eyebrows being joined together, usurped the throne.

The crusaders now invested Constantinople, and at the end of nearly three months' siege a general assault was made, and the town was stormed first before, and then after dark, with great loss. The Greeks at last sued for mercy, and the carnage was stopped; but the city was given up to plunder, attended by all its concomitant excesses, although both Baldwin and the Marquis of Montferrat induced the crusaders to restrain the licentiousness of the soldiers. A great share of the mischief was perpetrated, as usual in such events, by the depraved part of the population itself, and by those Latin inhabitants, who, having been driven away by the Greeks some months before, now returned with their triumphant countrymen. The booty was divided between the crusaders and the Venetians; the share of the former, after deducting their debt to the republic, amounted to 400,000 marks of silver, or about 900,000 livres tournois. Murtaugh had run away, but being eventually captured, submitted to the decision of the barons of the realm. A truce of a year was concluded, at the moment of the arrears. The other usurper, Alexius Angelus, was also seized, and sent captive to Italy. The Latin conquerors appointed twelve electors, six Venetians and six crusaders, to choose the emperor. The crusaders proposed, at first, the gallant old Doge Dandolo, but the Venetians objected to his nomination, on the ground that the imperial dignity was incompatible with that of first magistrate of their republic. The choice then fell upon Baldwin of Flanders, the most distinguished as well as the most powerful of the crusaders. The Marquis of Montferrat, the only candidate who could be his rival, was the first to swear allegiance to the new emperor. The authority of Baldwin, however, was much circumscribed: not only had he kept part of the government in his own hands, but his pretensions to the crown of Jerusalem were acknowledged by the leaders of the crusading army. Baldwin was kept in the island of Crete, which last was sold to the Venetians. Others received fiefs in various parts of the empire. Several provinces, however, remained in the possession of Greek princes, the rulers of Thessalonica, the Laici, who had kept part of Asia Minor; a descendant of Andronicus Comnenus held the duchy of Trebizond; and Michael, a bastard of the house of Angelus, formed a strong principality in Epirus. Baldwin was, therefore, only a titular emperor, and in reality his only privileges were the right of reparation for which historians have generally given him credit, could not prevent the disorders inherent to such a state of things.

Meantime the discontent of the Greeks was encouraged by John, or Joannies, King of the Bulgarians and Wallachians, who had revolted against the empire under Isaac Angelus. Joannies was of the Latin communion; he boasted of being of Roman descent, and he corresponded with Pope Innocent III. Recognizing the fall of the empire, he sent ambassadors to the Latins to propose an alliance, but he was haughtily told that he must begin by making his submission as a vassal of the new emperor.

Upon this Joannies secretly intrigued with the disaffected Greeks, promising them all the advantages of Greek sovereignty. He was sent over to Asia on an expedition, taking with him the flower of his troops, the Greeks of the towns of Thrace and Macedonia, and massacred the Latins who were scattered among them. The news spread to Alexios Angelus, and he too started an expedition. Innocent III., having written to Joannies, requesting him to give up the emperor, was answered that 'Baldwin had said the debt of nature.' The manner of his death is unknown. A story was circulated of his having been cruelly医治ed by John, or Joannies, that Baldwin had said he was to be burnt on the scaffold. This was said to have been actuated by motives similar to those of Potiphar's wife towards Joseph, as related in the Book of Genesis. Henry, Baldwin's brother, succeeded him as Emperor of Constantinople. Twenty years later, Baldwin married for the second time, and he was Baldwin III., and was again in favour, but he was charged with impotence, and put to death.
which was transmitted to his descendants for several generations, until the end of the fourteenth century, when it was at last dropped. The last of these titular emperors of Constantinople, John VI, was killed in 1341 during the siege of Constantinople by the Ottoman Turks.

Baldwin V of Jerusalem, the son of Bohemond and Queen Bertha, was born in 1185. He succeeded his father as king of Jerusalem in 1186. Baldwin was known for his military campaigns and his efforts to expand the Crusader states in the Holy Land. He was succeeded by his son, Baldwin VI, in 1194.

Baldwin VI of Jerusalem, the son of Baldwin V and Queen Bertha, was born in 1186. He succeeded his father as king of Jerusalem in 1194. Baldwin was known for his military campaigns and his efforts to expand the Crusader states in the Holy Land. He was killed in battle in 1197.

Baldwin VII of Jerusalem, the son of Baldwin VI and Queen Bertha, was born in 1186. He succeeded his father as king of Jerusalem in 1197. Baldwin was known for his military campaigns and his efforts to expand the Crusader states in the Holy Land. He was killed in battle in 1197.

Baldwin VIII of Jerusalem, the son of Baldwin VII and Queen Bertha, was born in 1186. He succeeded his father as king of Jerusalem in 1197. Baldwin was known for his military campaigns and his efforts to expand the Crusader states in the Holy Land. He was killed in battle in 1197.
at Westminster, he followed King Richard I. to the Holy Land. He embarked at Dover, March 25, 1191, abandoning the important duties of his station, and, after suffering many hardships on his voyage, arrived at Acre during the siege, where he died, Nov. 20, in the same year, and where his body was interred. (Gervais, col. 1676.)

Bishop Baldwin (Biblioth. Brit. Hib. pp. 67, 68) has given a list of a great many treatises by Archbishop Baldwin, which remain in manuscript, and has noticed the different libraries in which they are deposited. The most important, however, were collected by Bertrand Tissier, and published, in 1662, in the fifth volume of the Scriptores Biblioth. Catteriensem. The reader who desires more minute information than is given here, upon the life and labours of Archbishop Baldwin, is referred to Bale, in his Life of Walcot, prefixed to the 3d ed. of 1778, p. 530; Mas. Par., ed. 1640, pp. 141, 143, 154, 157, 161; Henry, Hist. Brit. 8vo. ed. 1705, vol. v. pp. 408, 423; Pits, De Imagini. Angl. Script., an 1193. Giraldus Cambrensis's account of Archbishop Baldwin's journey into Wales, and of the services of war which was first captured by him at 12no. at London, 1585, and afterwards by Camden in his Anglica, Normannica, &c., fol. Franc., 1603, has been since translated, and successfully compared with the present text of the Life of Wales, by Sir Richard Colt Hoare, Part. 4to. Lond. 1806.

BALE, JOHN, in Latins BAL Neo, Bishop of Osney in Ireland, in the middle of the sixteenth century. He was born, as he himself tells us, at Cove, a small village in Suffolk, near Ipswich, and was educated by the Speakers, and, as he himself informs us, has neither tutor nor patron. (Bale, De Script. Brit., cent. viii., c. ult.) He was entered at Jesus College in that university, where, according to Bale's manuscript collections, we find him as early as 1514 (MS. Harl. 7031, p. 356). In 1529 he occurs as prior of the Carmelites of Ipswich. (Srype, Annals, App., No. 25.) His education, of course, was in the Romish religion; but some time subsequent to the last date, at the instigation of the Lord Wentworth, he turned Protestant, and gave public testimony of his devotion to the Established Church of the Roman Catholic religion (the celibacy of the clergy) by immediately marrying his wife Dorothy. This, as may be conjectured, exposed him to the persecution of the Romish clergy, against whom, however, he wrote, in the 2d year of Henry VIII. (Bale, De Script., ut supr.), that he wrote in the last year of the reign of Edward VI., in 1552, King Edward came in a progress to Southampton, where Bale's living being only five miles distant, he mounted his horse to get a sight of the king, and betwixt two and three of, the clock the same day he drew towards the place where his majesty was, and stood in the open street right against the gallery. 'The king having notice of some of the gentlemen of his privy chamber that Bale stood there, for so much as he had been told him a little before that he was both dead and buried. With that his grace came to the window, and observed him with an earnest regard,' and, as Bale learnt from those who were present, immediately ordered a guard to be sent to Bale, and with the council, that Bale should be immediately nominated to the bishopric of Osney in Ireland, at that time vacant (Pococke, fol. 161; to which he was consecrated early in 1553. Bale's demand to have his consecration performed according to the canons of the Church of England, and his uncompromising endeavours to win over the people, and more especially the priesthood of his diocese, hastily to the reformed religion, rendered him so unpopular, that upon the arrival of the news of Edward VI.'s death, his life was endangered: for, as was asserted by the kernes, who attacked his house at Holmes Court, near Kilkenney ; and he himself was obliged to be escorted to Dublin by a hundred horse and three hundred foot soldiers. Here also he found himself, and those of great abstinence, of few words, and not easily provoked to anger. The only fault he charges him with is a remissness in the execution of his pastoral office, arising from an innate lenity of temper. (Giraldus, De Vita Sex Episcoporum Cornwal. 1193.)

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Fox tells us (Acta et Monumenta, 1st. edit. p. 574) that Bale wrote several books under the name of Harrison. One was among that number of the preserved list. Bale's father's name was Henry Bale, and on that account perhaps Bale assumed the name of Harrison.

His Collectanea (in his own handwriting) de Religione Christianitatis et Scripturis suis, 4to, is preserved among the Harleian manuscripts in the British Museum, No. 1819. Hearne writing to Baker, the Cambridge antiquary, in 1715, says, Dr. Sloane had just then presented to the Bodleian a MS. of Bale's account of the Carmelites. Tanner, in his Bibliotheca Britannica, has given a list of some other of Bale's manuscripts, with notices of where and when they were preserved.

No character has been more variously represented than Bale's. Gresner, in his Bibliotheca, calls him a writer of the greatest solicitude, and Bishop Basset gives him the character of a laborious inquirer into British antiquities. Similar praise is also bestowed upon him by Vogeler (Introduct. Universal. in Notit. Scriptor. Anthony & Wolf, how- ever, styles him the 'soul-mouthed Bale.' Heares (Pref. to Heminges) calls him 'Baleus in multibus mendacibus.' And even Fuller (Worthes, last edit. vol. ii. p. 332) says 'Buisus Baleus paressit for his true character.' He inveighed with so much asperity against the pope and papists that his writings were persecuted by the church of Rome among those of the first class of heretical books; and his accusers were treated with an impenetrable zeal, it must be acknowledged, often carried him beyond the bounds of decency and randour. Fuller, in his worthies, in a 1st edit. in p. 312, pleads for Bale's railing against the papists. 'Old age and malady, he says, may make any man angry. When young, he had seen their superstition; when old, he felt their oppression. The best is, Bale rails not more on papists than Pita (employed on the same subject) on Presbyterians, and even one against the other, whilst the dissenters read both, of the extravagances of passion on each side, may benefit himself in quiddity from their loud and clamorous invectives. The greatest fault of Bale's book on the British writers is in its mixture of his own frequent giving the heads of chapters or sections of a book as the titles of distinct treatises. He has likewise put many persons down as authors who had no claim to such distinction.

Bale's works are not limited to English, as he also wrote in Latin and Greek. His works in Latin were published by Fuller and Abel Rogers, vol. p. 502. 511. Tanner, Bibli. Hist. Lib. vol. p. 50; Cole's MS. Athenae Camb. lett. B. Granger,
nearly sixty years after, when they were formally annexed to the crown of Aragon. Minorca was taken by the English in 1708, and finally ceded to them by the treaty of Utrecht; a few years afterwards it was captured and retaken by the French, and was finally ceded to France and Spain. In 1798 it again surrendered to the British, and remained in their possession till the peace of 1814, when it was restored to Spain.

The most interesting and significant events that have occurred in Minorca are those connected with the city of Mahon, where the British and French have been in a state of constant warfare for many years. The British have been in possession of the island since 1801, and have maintained a strong garrison there ever since.

Balfour, Sir James, of Pittendrigh, Lord President of the Court of Session in Scotland, and the reputed author of Balfour's Practicks of the Law, was son of Sir Michael Balfour, of Pittendrigh and Montquhanie, county Fife, and in his early years received a liberal education for the church, in the course of which he distinguished himself particularly in the study of the canon and civil laws. The clerical profession in Scotland had long engaged some of the first offices of the state, and, by the establishment of the Church of Scotland, had been confirmed in its importance. Balfour was one of the first to be ordained in the new Establishment, and was appointed to the living of Menzies, and there he began to extend himself to Scotland; and though from his being in the former directed by the sovereign, whereas in the latter it was altogether popular, the mode of its operation in the two countries must have been dissimilar, yet there is little doubt that not a few anticipated here the same easy and rich conquest which had been achieved in England. Among others, young Balfour left the ancient religion and joined the standard of the Reformation, and was indeed "the chief and principal Protestant that then was to be found in the realm, and had given his life, guf you much credit his words, for defence of the doctrine that John Knox taught."—Knox's Hist. of the Ref., p. 75. He also joined the conspiracy led by Norman, eldest son of the Earl of Rothes, against the Cardinal Beaton; and being taken in the castle of St. Andrews when that fortress surrendered to the French auxiliaries in the end of the summer of 1547, was put into the same galley with Knox, and carried prisoner to France. The cause of Scottish Protestantism was lost, and the disbanding of the papal forces of Rome shewed joy through the streets—

There was, however, no reason for congratulation: the reformers were yet alive, and the evils inflicted on their party proved only as the process of the winnowing floor, which separates the chaff from the wheat. Accordingly, on the peace of 1559, Knox, Balnavis, and others, returned to Scotland with new ardour in the cause of the reformation. Balfour also returned, but professed himself a Roman Catholic, and had even a dispensation from the ban of the Protestant part: though, as Knox says, his own conscience and the weight of several wise and judicious witnesses could testify the fact. He was immediately appointed official of St. Andrews within the archdeaconry of Lothian, vacant by the promotion of Creighton, provost of Edinburgh, to the see of St. Andrews. In this situation, with the zeal of a suspected confederate, he proceeded to afford against the poor old priest Walter Mylne for heresy, because he had given up saying mass, and had broken up the flames and burnt.

On the breaking out of the civil war between the congregation and the queen-regent in 1559 Balfour took the part of the latter; yet it appears he knew all the transactions of the former, a boy of his being taken with a writing quill in the hands of the most secret things that were done in the council, yes those very things quills were known to have been known bot to a very few.—Knox, p. 186. He escaped the search of the reformers in Fife in February 1560; and was about the same time appointed privy seal of Fife in that senate. Soon after the arrival of the young queen in 1561 he was appointed an extraordinary lord of session, and on the 5th of November, 1561, advanced to the place of an ordinary lord in the same court. He was one of the provosts of the town of Edinburgh, a court of the officers of Lothian, constituted its chief judge; and on the 5th of July, 1565, he was sworn of the queen's privy council. To these various employments of privy councillor, judge, and priest, he seems to have added the bar. It is said he once made an attempt to find him in the court of justiciary as a master of the crown in the criminal prosecution against old Andrew Ballingall, of Drumbo, for wilful absence from the raid of Stirling. —Murray's Com. Trials, p. 97. He was with the queen at Holyrood, in the night of 22 November 1565 a assassination; and if we believe her statement, his death also was in contemplation; but we shall afterwards find Darley accusing him to her of being necessary to the crime. But however this may be, it was not unimportant a paltry, but had new honours conferred upon him, the queen immedi- ately afterwards creating him a knight, and appointing him lord clerk register, in the room of William M'Gill, who was one of the conspirators, and had fled.

The same year a royal commission was issued on the suggestion of Leyce, Bishop of Ross, that certain learned, wise, and expert men quillik best know the laws said be chosen to see and examine the buskis of law, and set them forth to the knowledge of the queen's subjects. The result was that a number of acts were to be issued for the better understanding of the public, and that certain books were to be printed within six months after the date of the commission, and bears abundant marks of the precipitation with which it was thrown upon the public; but in the compilation of it, Balfour is especially noted for their diligence and exertions.

From this hasty yet peaceful work of a legislator Balfour was already hurryng to a scene of treachery and blood. He saw the influence of Balliol in the royal closet. To that nobleman, therefore, he attached himself, and quickly joined in the conspiracy against the youthful Barnabas, who, with something like a presentiment of his fate, now urged the queen to accuse Balfour of being necessary to the murder of Rizzio, and to dismiss him from her court. Balfour had the bond for mutual support entered into by the conspirators, and prepared the house in the kirk of Field for the execution of the deed, but was not actually present on the occasion. Accordingly, he was distinctly charged as an accomplice in the crime, both in the Earl of Lennox's dispatch, and in the popular placard put up in answer to the government offer of a reward for a discovery of the perpetrators.—"I have made inquisition for the murder of the king (says the anonymous accuser), and do find the Earl of Bell, Mr. Balfour, the Balfours of Balmore, Chalmer, and black Mr. John Spens, the principal devisers thereof."—Bathwell was brought to an early trial, which no enmity of Lord Lennox, his prosecutor, could stay; but as the evidence was not really, his guilt was admitted, and he was acquited. It is said that Balfour professed a determination to have himself cleared by an assay also; but he afterwards saw it expedient not to press this, or play with an edged tool.

On the 2nd of April, 1567, the queen, under the influence
of Bothwell, who, not doubting his safety, had Balfour bound to him, if by no other tie, at least by that of fear of public justice. He appointed him captain of Edinburgh Castle, in the room of Sir William Cockburn of Skirling, to whom he had given the same only a few days before the 8th of March preceding. Both the queen and Balfour, however, lived to repent of their confidences, and on their fortunes falling sought to dispense Balfour, who now deserved his lieutenant's place. Holding the fortress as 'full master thereof;' they began to treat with the associate lords for their surrender to them. On the defeat of Carberry, Bothwell despatched a special messenger to the castle for Mary's letters. These Balfour delivered; but, as Bothwell's influence was now entirely gone, he was kept in prison in the same sway as the messenger's return, attacked him, and carried off the famous casket with its contents, to which they ever after appealed in proof of Mary's guilt, and in justification of their conduct towards her. We afterwards find Balfour negotiating with the Earl of Murray, regent for the infant James, in whose favour Mary had been forced to resign her crown, for the delivery of the castle, which was at length surrendered on the following extraordinary conditions:—

1st, a pardon for all Balfour's services, with a 2d, a gift of the priory of Pitenweem; 3d, an annual gift to his eldest son out of the priory of St. Andrews; 4th, a large sum (Spatisswords calls it 5000L.) in present hand; and 5th, delivery of the castle into the hands of Kirkcaldy, who was to act as an adherent to the queen's cause, and, in the mean time, to sit in the same sway as the messenger, pursued in religion the same course of policy which Bothwell had held, fostering the reformation; and in his first parliament we find a commission issued, and Balfour (now prior of Pitenweem) named treasurer of the ecclesiastics of the burgh of Kirkcaldy and the land.

In the same parliament we find Balfour a lord of the articles on the spiritual side; and on the 12th of September, 1567, he was sworn of the privy council. He soon afterwards resigned his place of lord clerk register to please the regent. This did not restore a parole to Mary's parole; he continued in prison of 500L.; and was raised to the chair of Lord President of the Court of Session, in the room of Baillie of Provand, who had occupied it for about two years, but was now having the presence civil being a prelate, agreeably to the institution of the court.

At the battle of Langside, May 1568, Balfour was in the rear-guard with the regent, and displayed no little valour on the occasion; yet in the end of the same year, when the regent and his commissioners were in England, at a conference called by Queen Elizabeth to consider of Mary's guilt or innocence in the murder of Darnley, he remained in Scotland, and endeavoured to agitate there for her restoration. This conduct so increased the Lord Lennox, that he had him put in close custody, and, in order to save his life, by means, it is said, of bribes administered to Wood, the regent's secretary, Balfour effected his peace with Murray, and regained his liberty, though he lost his situation of President of the Session, to which Baillie of Provand now returned.

The year 1570 opened with the murder of the good regent by Hamilton of Bothwellhaugh, an event which appears to have inspired Mary's adherents with great hopes. Of these Balfour was now one; and on the 20th of August, 1571, he and some others of that side were attainted in a parliament held by the king's men. For a while the queen's party had some success, and in September 1571 Mary was made regent; but the aspect of affairs soon changed: an alliance was made with the Queen of England, who, also at length openly declared for the king's party, and lent her powerful aid to place Morton in the regency. Morton, on his becoming regent, endeavoured to affect a settlement with the queen's party; but all his overtures were rejected by Maitland and Kirkcaldy. Balfour, however, readily acceded to the triumphant Morton, whom he also endeavoured to conciliate by acts of vilen treachery. He was mainly instrumental in bringing about the concord called the treaty of Perth, in which his late conductors were given over to the tender mercies of the regent; and on the brave Kirkcaldy he inflicted a further blow when he revealed to Morton that Kirkcaldy's brother was in the pay of the queen, and at Blackness with a supply of money from France. In July Balfour was sent to Stirling to secure the Crichtons for Darnley's murder, and had been sentenced to the scaffold. Balfour, however, not only escaped a trait, but the following year had his forfeiture annulled and himself restored by act of parliament; and in 1574 the regent committed him to Skene a design for a general digestion of the laws. What progress was made in this matter, no nearer Balfour's Practise in the 1570s a plan for the destruction of the yet formidable Morton. The same year he was one of the arbitrators chosen by the Earls of Argyle and Atholl, in the attempt then made to effect a reconciliation. On the 5th of February, 1578, we read that Balfour was one of the witnesses called 'prolegomons,' for the prosecution in the criminal trial of one Thomas Turnbull for murder. The following year Morton recovered his authority, and Balfour again fell from before him. An act of the council, passed at the same time, declared him a traitor, convicted, and sentenced to die. This was Balfour's last public act, and it too clearly shows that age had in no degree dulled his capacity for intrigue nor his thirst for revenge. He died soon after, in the year 1583. After his death, he was restored, against the force of the council, to his old place as Lord President of the Session. He never did show any signs that he could wipe off those taints only which human laws have created: they cannot remove the stain of profaneness; they wash away infamy from the memory of the corrupt. (See Knox's Hist. of the Ref., Keith's Hist. of Balfour's Practise; Tytler's Life of Craig; Historical Account of the Senators of the College of Justice.)

BALFOUR, JAMES, of Pilrig, in the shire of Edin- burgh, was a considerable allows of the Bar en 14th of November, 1730; and on the decease of Mr. Baume, professor of Scots law in the University of Edinburgh, in the beginning of 1737, he and Mr. John Erskine, of Car- nock, advocate (afterwards author of the well-known Prin- ciples of the Law of-testates) were admitted into this society, and joined the party who wished for the unity of the Faculty of Advocates to the patronage of the vacant chair, who made choice of Mr. Erskine. Balfour was afterwards appointed sheriff substitute of the county of Edinburgh, but having occupied himself much with philosophical inquiries, he chose another province. David Hume, whose speculations he attacked in two an- onymous treatises, the one entitled 'A Delineation of Manci- atty,' the other, 'Philosophical Dissertations.' It is evident that opposition procures an antagonist's esteem, but Balfour's was not that kind of merit. On the other hand, he received from Hume a letter which began thus: 'When I write to you I know not to whom I am addressing myself; I only know he is one who has done me a great deal of honour, and for whose service I am obliged. If we be strangers, I beg we may be accounted so as you think proper to discover yourself; if we be acquainted already, I beg we may be friends; if friends, I beg we may be more so. In 1754 he resigned his judicial office, having the rank of Lord of Session, and was elected his successor in the chair of moral philosophy, at Edinburgh. This he resigned, in May 1764, for the charge of public law; and soon afterwards he published what appear to have been his lectures while in his former situation. In 1770 the Duke of Atholl, as President of the Royal Soc., in 1779 he resigned the chair of public law, and retired to Pilrig, where he died, 4th of March, 1783, at the age of 82, having spent (says the author of the Life of Erskine, who of course knows him well) a long life in the practice of those virtues which it was the object of his whole career to cultivate.

BALFRUSH, BALFROUSH, or BALFURUSH, a town in the province of Massenderan in Persia, is about 30 miles from the mouth of the Caspian Sea. Though only the second city of the province in rank, it is larger than Saroe, the capital. The city stands on a low and swampy plain, in and surrounded by a dense
and a Protestant, in answer to the Rev. Mr. Stibbing, to which are added several Remarks upon that Author's manner of Writing. This also being answered by Mr. Stibo
ging, by a further defence; but Dr. Hoadley prevailed upon him to desist, the publishing of the whole being a mere breach of the controversy, and the booksellers being unwilling to publish any new works relating to it at their own risk. In 1728 he took the degree of M.A. and in the same year published a Sermon on the "Beauty and Excellence of Moral Virtue, and the Support and Improvement which it receives from the Christian Revelation. In 1728 Mr. Balguy was collated, by Bishop Bisho
p, to a prebend in the church of Salisbury. In 1727 or 1728 he seconded an address of "Party Spirit," which was printed by order of the judges; and in the latter year published a tract entitled The Foundation of Moral Goodness, in answer to Mr. Hutcheson's In
troduction into the Natural History of Man. In this tract its design was to show that moral goodness does not depend solely upon instinc
ts and affections, but is grounded upon the inalienable reason of things. In 1729 he became vicar of North Allerton in Yorkshire, in which prebend he continued to his death. In 1729 he also published The Second Part of the Foundation of Moral Goodness, illustrat
ing and enforcing the principles contained in the former part, which had been answered in some remarks written by Bishop Hoadley, intituled An Address to the Judges: or a Brief Inquiry concerning the Moral Perfection of the Deity, particularly in respect to Creation and Providence. It was followed by A Second Letter to a Great Concerning a late Book entitled "Christianity as old as Creation," in which it is shewn that the book is at variance with the author's former works. In 1729 Mr. Balguy's Essay on Redemption, in which he explains the doctrine of the atonement in a manner similar to that of Dr. Taylor of Norwich, but Hoadley was of opinion that he had not succeeded. This and his volume of sermons, including six which had been published before, were the last pieces committed by him to the press. A posthumous volume was afterwards printed, which contained almost the whole of the sermons he left behind him. While in possession of the manuscript of this volume, and of the long preface of LaRonde, he never intermitted one week without composing a sermon; but fearing that his son, who was afterwards in orders also, might not follow his example, he destroyed almost his whole stock, and committed, at one time, two hundred and fifth sermons to the flames. The grandson of Mr. Bal
guy's Sermons (twenty in number) was published in 2 vols. 8vo., London, 1790. He died at Harrowgate, September 21st, 1748. The account of Mr. Balguy here given has been chiefly abridged from the life of him communicated by his son to the editors of the Biographia Britannica, edid. 1778, vol. I. p. 548—552.

BALGUY, THOMAS, D.D., only son of the preceding, was born at Lameley, in the bishopric of Durham. September 21st, 1716, and was educated at the grammar school of his native town, and at York-hire. In 1734 he was admitted at St. John's College, Cambridge; took the degree of B.A., 1738; M.A., 1741; D.D. 1759. In March, 1740, he had been elected Fellow of his college, and was made a canon in 1748, upon being presented by his father (under the right of his prebend of Salisbury) to the living of Stoke, near Grantham in Lincolnshire. He was also for a time jun
tutor of St. John's College. By the interest of Bishop Bisho
p, he was obtained a prebend at the cathedral of St. Nic
tche in 1757; became archdeacon of Salisbury in 1759; and afterwards archdeacon of Winchester. In 1769 he published a sermon preached at Lambeth at the consecra
tion of Jonathan Belcher, D.D. In 1770 the see of Winchester was attacked by Dr. Priestley. In 1771 he was presented by the dean and chapter of Winchester to the vicarage of Alton in Hampshire, upon which he resigned his former living of Stoke. In 1774 he published A Defence of Sub
divisions of the Bible, a large work, directed to the clergy of his archdeaconry, which produced a reply from the
The balistes, or Ballyes, are an extensive genus of fishes, belonging to the Cuvierian order Plectognathes, and family Sclerodermae. The groups thus denominated by Baron Cuvier are intermediate in point of structure between the common, or oceocean, and the cartilaginous; for though the skeleton is in reality of a fibrous or bony texture, it ossifies very slowly, and is never entirely complete; the ribs, in particular, usually remain imperfect throughout the whole period of the animal's life. The maxillary and intermaxillary bones, again, form but a narrow portion distinguished only by a slight suture or furrow at the point of junction, and the palatal arch is sordidly firm to the skull, and consequently devoid of individual motion. The opercular and gill-rays are colonized with the skin, which gives it the appearance of an operculum at one time common to every profession naturalist, that these fishes wanted the bony or cartilaginous apparatus altogether; a feature, which, like many others of a similar nature, had its origin in hasty and defective observation. The balistes, produced by Dr. Balgy, prefixed to the Discourses, have long since corrected.

The balistes are particularly distinguished by the vertical compression of the body, by having eight teeth arranged in a single row in each jaw, and the gills or gill-covers. They have two dorsal fins: the first composed of numerous powerful spines, articulated to a peculiar bone, itself articulated to the skull, and furnished with a longitudinal furrow; the second composed of a confluence of the spines, and depressed at the wall of the animal; the second, soft, or without spines, and placed opposite to the anal fin of similar structure. Like other genera of the same order, the balistes have no ventral fins; notwithstanding which, however, their skeleton is furnished with a complete pelvis, suspended from the bones of the shoulder. The intestinal canal is large, but without ceca, and the air-bladder of considerable size. These fish abound in all the seas of the tropics, and are found on the surface of the water, particularly in the neighborhood of rocky coasts and coral reefs, feeding with avidity upon the polypi of the latter, and showing with the most brilliant and varied colors. Their flesh is at all times a very indifferent food, and is said to be at no time good. At one period of the year, the coral coasts are in season. The species are very numerous, but possessing peculiarities or useful qualities which would entitle them to a detailed notice. They are easily distinguished by the chromoleucal form of their large and hard scales, which are disposed in regular rows, not overlapping one another as in the generality of fishes, but merely touching at their edges, and thus giving the whole body the appearance of being divided into so many regular compartments. Though, as already observed, they have no external abdominal fins, nor a few isolated spines are often found in the vicinity of the pelvis, which have been generally considered as representing these organs; and the greater number have the scales of the tail arched or more or less recurved forwards. The species, upwards of thirty in number, are enumerated in the notes to the second edition of the Regne Animal, vol. ii. p. 372, 373.

The aquatic animals show many of these characteristics. In conformation with the same name, which divides the town into two parts, and is crossed by a substantial wooden bridge of 220 feet span, and 20 in width. The number of houses amounts to nearly 300; many of them are convenient, well-built, spacious, and even elegant, constructed entirely of wood, and raised eight or ten feet from the ground, on pillars of mahogany. The town is immediately open to the sea, standing on a low flat shore, guarded by numerous keys, or small islands, which originally enclosed in this end of the river and so short a space, as to render the navigation extremely difficult. The group of lofty coconut nut trees, interspersed with the lively flowers of the tamarind, give a pleasing and picturesque appearance to the dwellings, independent of the agreeable shade they afford. The men and women are dressed in red and white, and each other at right angles: there is a government house, a church, a school, on the Madras system, attached to it, in which 133 boys and 91 girls are educated, an hospital, a workhouse, and other public buildings. Baylis is situated on the sea of Jamaica; there are also Wesleyan and Baptist establishments.

The word Balize is a corrupt spelling of Wallis, the name given to this spot by the Spaniards in consequence of the English and Dutch having been much respected by a piratical Englishman named Wallis.

Besides several bays, the town is defended by a regular fort, called Fort George, situated on a small islet at the entrance of the river, which has been principally formed of the ballast from shipping, every vessel being obliged to leave a portion; it is only 600 feet long, and 200 broad.

The first settlement of Balize is uncertain, as the early visitors were merely the mahogany and logwood cutters, whose residences were but temporary. The first establishment on the English island of Jamaica was the treaty with Spain in 1667. The first settlers were adventurers from Jamaica, who fixed themselves at Cape Canovia, and gradually extended their location to Balize, which they held in hostility to the Spaniards residing in and about Canovega, by whom these adventurers were at different times fitted out with the object of driving away our countrymen. These attempts did not succeed; but on the contrary the English settlers and seamen on two occasions (in 1677 and 1685) attacked and took possession of the town of Canovega.

Our right to maintain a settlement in this place having been recognized by the town of Spain, in a treaty concluded in July, 1676, the English settlements increased greatly, and in a short time the residents (all white persons) amounted to 1700 people.

In 1718 a Spanish force was collected at the head of the river Balize, with the object of destroying the British.

After remaining there inactive a time sufficient to admit of reinforcements being sent from Jamaica and North America, the Spaniards withdrew without striking a blow. In 1724 the desire of the Spaniards in this respect was, however, fully executed, and the English colony was broken up. At first peace was made between England and Spain, permission was given to form the settlement anew; and in April, 1766, the British logwood cutters returned to their former station. It was not without reservation that their attention was directed to the king of England. When the king of Spain had ordered the destruction of all industry carried on by the settlers. In September, 1768, the English were again expelled, and their settlements destroyed; but the treaty of 1750 put them once more in possession, which, with the exception of an unsuccessful attack by the Spaniards in 1768, has continued to the present time.

From the first formation of an English settlement in the
Bay of Honduras to the year 1741, the magistrates were elected by the inhabitants; but in the year just mentioned two communities were incorporated by George III. for the government of the colony. The chief authority in the settlement is at present held by a superintendent nominated by the crown. Seven magistrates are annually elected by the inhabitants to act as a council, at which the superintendent presides; some regular annuities act gratuitously, and as they manage the public funds of the colony, they form a body of importance.

The neighbourhood of Balize abounds in lakes, and swamps quite overflowed during the rains. An extensive marsh has now been drained by a new course with the interior by land is extremely difficult, and travelling is only conveniently performed by the river. The commerce of Balize is very confined, consisting almost exclusively in the exportation of mahogany and other woods; but within the last few years the interior has opened a new market for the consumption of articles of British manufacture. The climate is generally moist, but is considered healthy; the place is constantly refreshed by the sea-breeze (except for a few months) tempering the heat, which, however, is not excessive, as the thermometer seldom rises above 83° in the hottest time, and during the wet season sinks to 60°. The variation of temperature during the twenty-four hours is very great, frequently 39°. [See History and Gazetteer.]

The river Balize takes its rise in the mountains which bound the Honduras territory at a distance of about one hundred miles direct from the sea-shore. Its course is in an east and west direction, very tortuous: it discharges itself into the Bay of Honduras, eleven miles above the town, which, although already mentioned, at the town, the other about three miles and a half to the north-west; the latter is, however, not accessible. The falls in different parts of the river, and the sevens along the banks, are extremely great. Eight or ten miles above the town, the first falls begin, and farther on, a quarter of a mile in length, and with considerable falls. Above that, the river winds its way, by a natural tunnel through a ridge of hills which, by singular accident, has produced an singular subterranean excavations. During the floods, the mouths of these caverns are filled with water, which boils up with prodigious fury.

Gold has been found in a branch of this river called Rampe Creek, and another branch, called Laboucribing Creek, is remarkable for the petrifying properties it possesses: its waters have a powerfully cathartic effect, and a healing property when applied to ulcers.

The population of Balize, as of 1794, independent of 743 soldiers and military pensioners. Of the first mentioned number, 223 were whites, 1788 free coloured people, and 1793 slaves. In the same year the exports from the settlement consisted of 4,500,000 superficial feet of mahogany, and 1,600,000 square feet of cypress and similar woods, 730 bales of sarsaparilla root, besides some inconsiderable quantities of tortoise shell, hides, cocoa-nuts, and balsam. About five-eighths of the whole were sent to this country, and employed 9000 tons of British shipping.

Muss, rice, yams, and plantains, are cultivated for the consumption of the inhabitants; and a considerable number of horned cattle are bred, and employed in the mahogany works.

Balize lies in 17° 29' N. lat., 88° 8' W. long.

BALKAN MOUNTAINS, or GREAT BALKAN, is a name which properly belongs to that range of mountains in Turkey in Europe, which, lying between the 42nd and 43rd parallels and the 23rd and 26th meridian, divides the plains on the Lower Danube from the rivers running southward to the Archipelago. But as in geography the name of a portion of a range is frequently used to indicate a larger mass, so this name also has been applied to its western continuation, and even to the mountain system, which covers with its ranges and branches the eastern peninsula of southern Europe. But this application is not generally admitted, and has nothing to recommend it.

The most considerable mountain-chain, and that which, by an extension of the term, may be called the Balkan, runs from the Adriatic Gulf to the Black Sea, between the parallels of 42 and 43. It begins on the shores of the Adriatic Gulf with the rocky peninsula of Sabinicella, opposite the island of Curzola, and soon assumes an extremely wild and alpine character in the mountains of Czerna (pronounced Chernia), Gora, or Montenegro, which are inhabited by the Montenegrins. Proceeding farther each branch of the province of Serbia, it increases rapidly in height in the mountains of Persimmon, which join the Shardagh, or Kara Dagh, to the Montenegrin, and the Mons Scardus of the antients. The highest part of the range lies still farther east, where it receives the name of the Glubelin, Argentaro, and Egrus. Here it is supposed that some summits attain the point of eternal snow. To the west of the town of Sophia, near the sources of the Isker, a tributary of the Danube, and of the Struma (Strymon), the Montenegrin, or Mount Orbelus, 9000 feet above a level, is the highest peak, the name of Glubelin, Argentaro, and Egrus, which is the highest known summit of the whole system. From Mount Orbelus the range declines to the south-east, and is called Dupinsha Dagh, but it resumes its eastern direction again at the sources of the Maritsa (the Hebrus), and from this point, its terminus is the shores of the Black Sea, it is called Balkan, or Ermench Dagh; the latter name is derived from Cape Ermench, with which it terminates on the Black Sea. This portion of the range is considerably lower than that farther to the west, and it is thought that its mean height does not exceed 3000 or 4000 feet above the sea. It forms the confines of the Greek geographers, probably so called from its cold and snowy climate.

This range, like the whole mountain-system, is distinguished by craggy summits and steep sides, which render travelling in many parts impossible, and everywhere very difficult. Most of the narrow roads, of which only a few are passed in carriages, are made in the dry beds of torrents, over which the traveller passes through hollows, when they are suddenly filled by heavy rains. The most frequented, or rather the only passable roads over it, are six in number, which, from east to west, succeed one another in the following order: The first, the road from Sofia to Shumen, via Bulgan, to Aidos, or Haidos in Rovshil, offers less difficulties than the others, as it traverses the lowest portion of the range, and is therefore the most frequented. By this road the Russian army passed the Balkan in 1828. The second road is quite as difficult, being by singular subterranean excavations. During the floods, the mouths of these caverns are filled with water, which boils up with prodigious fury.

By this road the Russian army passed the Balkan in 1828. The third road passes through the Pass of the Bulgars, a singular and elevated part of the range it presents numerous difficulties, and is the least frequented. The fifth road leads from Sofia, to the Isker, to Tatar Basardash, on the Maritsa. It passes through the Kapuli Derbend (the Gate of the Mountains), which has received an indescribably beautiful name from the sources of the Maritsa and deep abysses, and is thought to be the work of the Emperor Trajan. The last three roads lead to Adrianople, and hence to Constantinople. These five roads traverse the Proper Balkan. The higher portion of the range, farther to the west, is only traversed by one road, which leads from Pristina, or Pratina, in Servia, to Uskup, or Skopia, in Macedonia. It is only passable by mules and asses, but much frequented, being the only road by which the produce of Macedonia is carried to the north.

The Balkan is united to the mountains of Middle Europe by two ranges. The Dinaric Alps, which separate the Lowlands of Hungary from the Adriatic Gulf, join it to the mountain system of the Alps. This range has its name from the highest of its mountains, the Adriatic Dagh, which rises to nearly 6000 feet, and is very steep on its western descent. It contains two great mountain masses, the Great Capella on the east of Zenghi, and the Wellebunt Mountains, south of the same town. This mountain range joins the Julian A near Zenghi. [See DALMATIA.]

By another range the Balkan is united to the Carpathians. This chain, which as yet has received no name, we shall call the Bulgarian Mountains. It detaches itself from the Balkan to the north of the Adrian Gulf, and north-west, parallel to the Dupnusha Dagh, and terminates in numerous branches on the banks of the Danube by which river it is separated from the Carpathians. The majestic Danube is here, for upwards of 60 miles between Gobulescu and Kiedowa, narrow by the two chains of mountains
which extend along its course, and forms numerous rapids and whirlpools. At one place, called Demirkapi (the Iron Gate), it is only 400 feet broad.

The northeastern boundary of the Balkan region is marked by the Donau Alps and the Bulgarian Mountains, which comprise the Turkish provinces of Bohnia and Servia, is a truly alpine region, presenting only high, steep mountains, and narrow, deep valleys. Its valleys in the southern districts run parallel to the Donau, dividing it into numerous branches, which are transverse valleys. None of the numerous chains of this tract are remarkable except the Rucknick Mountains, which run along the river Morava on its western bank, from south to north, and have always served as a natural barrier between the Slavic and the Turkic. The most remarkable rivers of this region are the Bozna, the Drina, and the Morava, all affluents of the Danube. The Morava may have a course of 200 miles, and drains an extensive country, more than one half of the alpine region.

The country to the east of the Bulgarian Mountains, and extending between the Balkan and the Danube at an average breadth of fifty or sixty miles, is not mountainous, but only hilly, with many little plains between the hills. Near the Danube it is quite a plain. No considerable rivers traverse it, except the Iskra (the Skies of Herodotus, iv., 49) and the Osokos of the Thracian, ii., 96), whose source is between the Danubina Dagh and the Bulgarian Mountains, and which break their way through the range before it enters the hilly plain of Bulgaria (Herod. iv., 49).

Three extensive and continuous chains branch off from the southern side of the Balkan. The most eastern tract, which is extensive, is composed of ranges not more than a hundred miles from Cape Emeini, and running in a south-eastern direction, gradually approaches the shores of the Black Sea, where it forms the high and rocky coast to the south of the Bay of Burgas, and terminates with the rocky hills on the Strait of Constantinople. It bears the name of Strandhesh Mountains, and, though not of great height, is difficult to pass, being very rocky. Near Varna it is traversed by a road already described. The Tekir Dagh, or the principal mountain to the Balkan chain in the north of this tract, branches off from the Strandhesh Dagh at a distance of about seventy miles west of Constantinople, and running in a south-western direction, and approaching very near the Sea of Marumara (Propontis), it divides into two branches, of which the northern terminates at Cape Pahi, north of the Bay of Saros, and in the southern in the peninsula of Gallipoli (Chersonesus Thracia). This chain merely consists of hills.

The second great range issuing from the Balkan branches off from the Tekir Dagh, running between 23° and 24° E. long., and runs likewise to the south-east; but before it reaches the shores of the Archipelago, it turns to the east, and in this direction, running nearly parallel to the sea coast, forms a very hilly and barren country, which terminates opposite a branch of the Tekir Dagh. One of its lateral branches forms the Cape of Marumara. This chain rises to a considerable height, and is called Despoti Dagh: part of it is the Rhodope of the ancients.

The tract of country which lies to the west of the Strandhesh, and to the east of the Despoti Dagh, and has for its northern boundary the Balkan, and for its southern the Tekir Dagh, is a spacious close valley, and may, in this respect, be compared with Transylvania and with Bohemia. Like those last named countries, it is traversed by numerous ranges of hills: between which ranges there are long and wide valleys and some extensive plains, rich in the productions of southern Europe. This country is drained by the Maritsa (Ilia-brusa) and its tributaries, of which the Tundja and the Arda are the largest. [See Maritsa.]

The most western of the three chains which branch off from the Balkan is by far the most extensive, and must be considered as a separate mountain system. It separates Albania from Macedonia, and the Cilician provinces from Greece, and branches into two parts, the southern branch extends through the northern part of Greece, terminating on the shores of the Gulf of Lepanto and at Cape Colona (Sunum of the ancients): not having a prominent name, it may be distinguished by that of the Albanian and Macedonian range. [See Macedonia and Greece.]

The country which extends between the Albanian-Macedonian Mountains and the Adriatic Sea from Cape Plaquon to Cape Bon, is generally denominated Albania Proper, or the ancient Illyricum, is the most mountainous country in Europe. The mountains, though probably none of their summits attain the line of eternal snow, are high, their summits very steep, and often precipitous, often presenting a declivity between them very narrow and winding. There are no plains; and the shores themselves are everywhere rocky and rough. Those valleys which lie near the principal chains run parallel to it, as those in which the two principal branches of the Drina drain the territory of the Turks. The principal rivers which drain this mountain region are the Drina, the Scobi, and the Volutza. [See Albania.]

The eastern region, which lies to the east of the great chains of the Albanian-Macedonian range and to the north of the Volutza Mountains (the latter of which extends from this range eastward, in about 40° lat., and terminates with Mount Olympus), extending to the Despoti Dagh and the great chain, is the Balkan, the Macedonian, and the Greek portion of Thrace, and is only mountainous near the great ranges which enclose it. The other parts, though extremely uneven, rise only into hills, with the exception of Kastagnit Dagh or Mount Panagia, which traverses nearly the middle of the country, and terminates on the peninsula called by the Greeks Chalkidike: Mount Athos may be considered as the south-eastern extremity of this chain.

The natural resources of this extensive mountain system are very imperfectly known. The silver and gold mines worked by the ancients are not now known. Yet, in some parts, mines of this description are worked, as at Kastendil or Giustendil, not far from the sources of the Kamas Struma, in the Egrus Mountains; of these, the most western, are considerable mines of copper, which are also found in the Rmineh Dagh, near Shumla, and probably in other places. Iron seems also to be abundant, and is got from the Duspinaya Dagh, near the place which has given its name to the mountain.

The remains of false mosques and decayed tombs, which have been built of sand-dried bricks: there are no ruins prior to the age of Mohammedanism.

By the inhabitants of the surrounding countries, Balk is called ' Mother of Cities,' and it is said to have been built by Kyamos, the founder of the Persian monarchy. After the conquest of the Persians, Artaxerxes the Persian had his authority extended over the entire country, and it became subject to the Persian empire, and the residence of the head of the Magi, till the followers of Zoroaster were overthrown by the conquistors of the Caliph. Its inhabitants were butchered in cold blood by Joseph Khan; Tamerlane, who took Balkh, attached it to his empire (The Travels of Marco Polo, Part 11, p. 26.) It formed the government of Aurungzebe in his youth, and was at last invaded by the great Nadir. On the establishment of the Durranzce monarchy, after his death, it fell into the hands of the Afghans; and within the last ten years it has been seized by the king of Bokhara, whose dynasty now governs it. The present population does not amount to 2000 souls, who are chiefly natives of Casabul, and the rest are a mixture of the inhabitants of the numerous villages established here by the Afghans: there are also a few Arabs. The Mogol chief, who possessed the city prior to its falling into the hands of the Bokhara, marched off a great portion of its population; and by still threatening an attack, he forced most of those left behind to fly to the neighbouring villages.

The circuit of Balkh appears to have contained numerous gardens, which increased its size without adding to its population; when from the fruit material of which the buildings are constructed, it does not appear to be a substantial city. There are three large colleges of bandooki structure, now in a state of decay. A mud wall surrounds the present town; outside of which are ruins on every side, to the extent of about two miles. The castle or fort, on the northern side, has been constructed in a more solid style, yet
The river of Bath, Adversus (i.e. Debba the ancient Buros, or Buros, which gave name to the city and province, takes its name from the mountains of the Hindus Kasae, which are visible from the town, and are said to have been the site of the ancient city of Buros. The whole district is about thirty miles in length, and is inhabited by about eighty thousand people, and is under the government of a governor appointed by the Great Mogul. The town is situated on a high hill, and is surrounded by a wall which is about three miles in circumference. The river, which is about three miles in length, flows through the town, and is navigable for small vessels, and is used for the transportation of goods.

Many of the crops are grown in the vicinity of the town, and a great deal of grain is exported to other parts of the country. The people of the district are mostly engaged in agriculture, and the chief crops are wheat, barley, and rice. The town is well supplied with water, and the water is said to be healthy.

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BALLADS, in poetry, a popular song or roundelay, generally satirical or satirical, is a type of poetry which has been popular for centuries. It is a form of literature which has been used to express the thoughts and feelings of the people, and is often a reflection of the social and political conditions of the time.

Ballads are often characterized by their simplicity and directness, and are often written in a straightforward and unembellished style. They are often characterized by their simplicity and directness, and are often written in a straightforward and unembellished style. They are often written in a straightforward and unembellished style, and are often characterized by their simplicity and directness.

The ballad is a form of literature which has been popular for centuries, and is often a reflection of the social and political conditions of the time. It is a form of poetry which has been used to express the thoughts and feelings of the people, and is often a reflection of the social and political conditions of the time. It is a form of literature which has been popular for centuries, and is often a reflection of the social and political conditions of the time.

Fox tells us (Acts and Monuments, 1st ed., p. 574) that Bale wrote several books under the name of Harrison. One work only named under that name, and by Bale's father's name, is Henry Bale, and on that account perhaps Bale assumed the name of Harrison.

His Collectanea (in his own handwriting) de Religione Con- tractata, et Scriptoribus haud ecno, 4to. is still preserved among the Harleian Manuscripts in the British Museum, No. 1819. Hearne writing to Baker, the Cambridge antiquary, in 1713, says, Dr. Soane had just then presented to the Bodleian a MS. of Bale's account of the Carmelites. Tanner, in his Bibliotheca Britannica, has given notice of some other of Bale's manuscripts, with notices of where they are preserved.

No character has been more variously represented than Bale's. Grose, in his Bibliotheca, calls him a writer of the greatest cunning and brilliancy, and Bishop Coke says of him, 'The character of a laborious inquirer into British antiquities. Similar praise is also bestowed upon him by Vliger (Introduct. Universal. in Notit. Scriptor.) Anthony a Wood, however, styles him 'the foul-mouthed Bale.' Hearne (to Herring) calls him 'Baleus in multa mendax.' and even Fuller ('Worthes, last ed. vol. ii. p. 332') says 'Rebusus Baleus passeth for his true character.' He inveighed with so much asperity against the pope and papists that his writings were prohibited by the church of Rome among those of the first class of heretical books; and his interdictial zeal, it must be acknowledged, often carried him beyond the bounds of decency and candour. Fuller, in his Worthes, p. 69, says, 'Bale was raging against the papists. Old age and ill usage, he says, 'gave him leave to make any man angry. When young, he had seem'd their superstition; when old, he felt their oppression.' The best is, Bale rails not more on papists than Pits (employed on the same subject) on Protestant writers, and reviled, most of all, against the other, whilst the discreet reader of both, partaking of the extravagances of passion on each side, may benefit himself in quietness from their loud and clamorous invectives.

The great fault of Bale's book on the British writers is its multiplicity of illustrations, by frequently heading the heads of chapters or sections of a book as the titles of distinct treatises. He has likewise put many persons down as authors who had no claim to such distinction.


Bale. [See Bale.]

Balearic Crane. [See Crane.]

Balearic Islands (Epiphanius (1605), Barb- argere, Strabo, &c). The islands lie in the western part of the Mediterranean, off the east coast of Spain, to which country they now belong. These islands are three in number (exclusive of the two smaller ones of Formentor and Cabrera), namely, Ivora, Mallora (Majorca), and Minorca. They lie in a N.E. and S.W. direction, occupying a space of 160 miles in length, by a mean breadth of 30 miles, with an area of 4000 square miles. Ivora, the nearest to the Spanish coast, is distant from Cape Passo 35 miles. Mallora (Majorca) is the central island, and Cabrera, to the N.E. of Ivora; and Minorca is separated from Mallora by a strait 22 miles in width. These islands are now generally comprehended under the term Baleric, as they are in Strabo, who mentions only four, and classes them under the names of Commeris (Majorca and Minorca), and Pytops (Ivora and Formentor), giving the name Barii to the whole group. The name Pytops is supposed to be a Greek word derived from the pine trees with which the larger island abounded. The two Pytops were called by the Greeks respectively Eubab and Ophusa (make it what you will), which last the Romans translated into Colubraria. Galera is the Capraria of the Roman geographers.

The squares round the Colubraria signify the depth of seven fathoms. [From the Survey of Don Venaro Tudor.]

The word Baleares is generally admitted to be from the Greek βαλαρας, 'to throw,' the original inhabitants were very expert in the use of the sling, to which they were accustomed from their infancy; and their dexterity as slingers, as well as in archery, made the Carthaginian and Roman armies, as often noticed by ancient authors.

The Phormenians, it appears, were the first settlers in these islands, which, however, had a race of original inhabitants. The Carthaginians, under Hannibal, having made themselves masters of the whole group, proceeded to form new colonies, and founded the towns of Mago (Mabac) and Jannion (Caudalia). The islands furnished them considerable bodies of troops in their wars against Spain and Rome, and a large force of their sailors in tempora Haemalium in his passage across the Alps. When the Carthaginians were driven from Spain, the islanders retained their freedom, which they made use of to preserve their liberty until they were subdued by the Romans. Quo Mettius, who founded the cities of Palma and Palamot, took the surname of Baleares. They continued attached to the Republic as part of His- pania Ulterior, and subsequently to the empire, when the Balearic islands probably belonged to the prefecture of New Carthage, one of the two provinces of His- pania Ulterior, otherwise called Tarra- cconiae. From the reign of Constantine the Great to the reign of Theodosius the Great they had their own government. Spain having fallen into the hands of Vandals and Huns, a body passed over to these masses which became an eis conquest, and afterwards, a part of that peninsula, was subdued by the Moors. The devastations of these barbarians induced Charlemagne to take an expedition against them, and he obtained possession of the islands; but he only kept them six years, when they were recovered by the Moors, who, as usual, put to great ordinary excesses against the Christian population. Instead of several bulls of the Pope, the Kings of Aragon frequent attempts against these islands in 17th and 19th years, the Moors were not finally expelled from the whole group of islands, but the islands were never recovered by the Moors, though they were once styled Balearic.
nearly sixty years after, when they were formally connected to the crown of Aragon. Minorca was taken by the English in 1576, and finally ceded to them by the treaty of Utrecht; but on both secular and imperial, are often found by the combined force of France and Spain. In 1798 it again surrendered to the British, and remained in their possession till the peace of 1814, when it was restored to Spain.

The inhabitants may be traced in large tumulus of great rough stones, enclosed in a fence of large flat stones set on end close together—erected probably over their dead, though, from their being always erected on elevated spots, and having a spiral path contrived outside to ascend to the summit, it was not to have served the purpose of watch-towers. Of Roman antiquities there are few vestiges, as their works were all zealously destroyed by the Vandals and Huns on their occupying the islands; but several Roman inscriptions remain, and lamps, urns, and coins of Roman manufacture. The buildings of the Moors may be known by their style of architecture; such are the small castles and watch-towers, and much of the walls of cities, as is proved by the Arabic inscription on them.

These islands are hilly, and Majorca may be termed mountainous, but they are not of volcanic formation. Granite, marbles, jasper, porphyry, slate, and pitch-cuml are found; also lead and iron. The soil is generally good, and chiefly culti-
vated, but the original inhabitants much be traced in the collines. The general features of the coasts are steep and rugged, surrounded by rocks and islets, but affording some excellent harbours. The water around them is deep. There are no snows, but the mountains rise above the rains, or on the melting of the snows, are impetuous. [See MAJORCA, MINORCA &c.] (Strabo, p. 167; Cassaunt; Diodorus, lib. v. 17, 18; Plin. iii. 5; P. Mela, ii. 9; Dumez's Hist. of the Belgian Kingdom; Armstrong's Minorca; Sauvageau's Thesaurus (Greek and Latin).]

BALFOUR, SIR JAMES, of Pittendruch, Lord President of the Court of Session in Scotland, and the reputed author of Balfour's Practices of the Law, was son of Sir Michael Balfour, of Pittendruch and Montquhany, county Fife, and in his early years received a liberal education for the church, in the course of which he distinguished himself particularly in the study of the canon and civil law. The clerical profession in Scotland had long engrafted such habits as were known to the state and, by the ordination of the Court of Session, had brought to a favourable termination an arduous contest with the Lord Justice-Clerk for the supreme place of judicature. Just at this time the great religious revolution which had overthrown the papal power in England as it was, began to extend itself to Scotland; and though from its being in the former directed by the sovereign, whereas in the latter it was altogether popular, the mode of its operation in the two countries must have been dissimilar, yet there is little doubt that not a few anticipated here the same easy and rich conquest which had been achieved in England. Among others, young Balfour left the ancient religion and joined the standard of the Reformation, and was indeed 'the chief and principal Protestant that then was to be found in this realm,' and wrote of his belief in him. His words, for defence of the doctrine that John Knox taught. — Knox's Hist. of the Ref., p. 75. He also joined the conspiracy led by Norman, eldest son of the Earl of Rothes, against the Cardinal Beaton; and being taken in the castle of St. Andrews when that fortress surrendered to the French auxiliaries in the end of the summer of 1547, was put into the same galley with Knox, and carried prisoner to France. The cause of Scottish Protestantism seems to have been lost in the passions of Rome shrouded with joy through the streets—

<table>
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<th>Ye priets. constest ye son;</th>
<th>Ye priets. constest ye son;</th>
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<td>How ill did the galley last!</td>
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There was, however, no reason for congratulation: the reformers were yet alive, and the evils inflicted on their party proved only as the process of the winnowing floor, which separates the chaff from the wheat. Accordingly, on the peace of 1549, Knox, Balnavis, and others, returned to Scotland with new ardour in the cause of the reformation. Balfour also returned, but professed himself a Roman Catholic, and had even joined the adherents of the Protestant party; though, as Knox says, his own conscience and the testimony of all the world which could testify the fact. He was immediately appointed official of St. Andrews within the archdeaconry of Linlithgow, vacant by the promotion of Creighton, provost of Douglas, to the bishopric of Moray. In this situation, with the zeal of a suspected confederate, he proceeded er offerro against the poor old priest Walter Mylin for heresy, because he had given up saying mass, and had publicly condemned the Fand, and to have been known but to a very few. — Knox, p. 188.

He escaped the search of the reformers in Fife in February 1550; and was about the same time appointed pensioner of Fisk in that shire. Soon after the arrival of the young queen in 1561 he was appointed an extraordinary lord of session, and on the 5th of November, 1563, advanced to the place of an ordinary lord in the same court. He now took a most zealous part in the court of Edinburgh, in the room of the court of the official of Liddelburn, which constituted its chief judge; and on the 5th of July, 1565, he was sworn of the queen's privy council. To these various employments of privy councilor, judge, and priest, he seems to have added practice in the law, and in that capacity he was found in the court of justiciary as assister of the crown in the criminal prosecution against old Andrew Ballingall, of Drumbarro, for wilful absence from the raid of Stirling.— "And he had in the case of a crime in Scotland a warrant from the queen at Holyrood on the night of Rizzio's assassination; and if we believe her statement, his death also was in contemplation, though we shall afterwards find Darnley accusing him to her of being necessary to the crime. But however this may be, it was not only in his capacity as an assist, for he had new honours conferred upon him, the queen immediately afterwards creating him a knight, and appointing him lord clerk register, in the room of Mc Gill, who was one of the conspirators, and had fled.

The same year a royal commission was issued on the suggestion of Lesly, Bishop of Ross, that certain learned, wise, and expert men quibilk best knew the laws sould be seen to examine and the bulks of the law, and set them forth in the case of such and such a case. This proceeded to a volume of acts of parliament from 1424 to 1544, which was printed within six months after the date of the commission, and bears abundant marks of the precipitation with which it was thrown upon the public; but in the compilation of it, Balfour are especially used for their diligence and exertions.

From this hasty yet peaceful work of a legislator Balfour was already hurrying to a scene of treachery and blood. He saw the influence of Bothwell in the royal court. To that nobleman, therefore, he attached himself, and quickly joined in the conspiracy against the youthful Darnley, who, with something like a presentiment of his fate, now urged the queen to accuse Balfour of being necessary to the murder of Rizzio, and to dismiss him from her councils. Balfour framed the bond for mutual support entered into by the conspirators, and prepared the house in the kirk of Field for the execution of the deed, but was not actually present on the occasion. Accordingly, he was distinctly charged as an accomplice in the crime, both in the Earl of Lennox's despatch, and in the popular placard put up in answer to the government offer of a reward for a discovery of the perpetrators.—I have made inquisition for the murder of the king (says the anonymous accuser), and have discovered Mr. Balfour. Mr. Balfour, son of Balfour the bishop, Mr. David Chalmers, and black Mr. John Spens, the principal devisers thereof. Bothwell was brought to an early trial, which no curiosity of Lord Lennox, his prosecutor, could stay; but as the evidence was not ready, he was acquit. It would appear that Balfour professed a determination to have himself cleared by an assigne also; but he afterwards saw it expedient not to press this, or play with an edged tool.

On the 22d of April, 1567, the queen, under the influence
of Bothwell, who, no doubt imagined he had Balfour bound
to his will, if by no other on, at least that of some of his
public justice, appointed him captain of Edinburgh Castle, an
impressive work of William Cockburn of Skirling, to whom she
gave it in charge only on the 8th of March
preceding. Both the queen and Bothwell, however, lived to
repent of their courses, Balfour, for his fortunes falling
away, moved to draw a poor, lower, and holding the fortress as "full master thereof," be-
gan to treat with the associate lords for its surrender to them.
On the defeat of Carberry, Bothwell despatched a special
message to the queen for Morton to be set free; but as
this message was not delivered, he sent a first notice to the
associate lords, who watched the messenger's return, attacked him, and carried off the
famous casket with all its contents. They then took advantage
of Morton's guilt, and in justification of their conduct towards her.
We afterwards find Balfour negotiating with the Earl of Murray, regent for the infant
James, in whose service Mary had been forced to resign her
crown, for the delivery of the castle, which was at
surrendered on the following extraordinary conditions:
1st, a pardon for art and part in Darnley's murder;
2d, a gift of the priory of Pitenweem; 3d, an annuity
to his eldest son out of the priory of St. Andrews;
4th, the right of hawking and coining all the coin
in hand; and 5th, delivery of the castle into the hands of
Kirkcaldy of Grange, an adherent of the queen. Mur-
y, on attaining the regency, pursued in religion the same
course of policy which Bothwell had held, favouring the
reformed church and aiding the ruined churches and colleg
assemblies, and Balfour (now prior of Pitenweem) named
therein to ascertain the jurisdiction of the church of Scot-
land. In the same parliament we find Balfour a lord of the
arena on the spiritual side, and carried the 12th estate;
which, however, he avoided, on the occasion of
1567, he was an ex-sovereign of the privy council. He soon after-
wards resigned his place of lord clerk register to please the
regent, who wished to restore M'Gill. For this he got a
pension of 300£; and was raised to the chair of Lord Presi-
dent of Council on the occasion of her marriage. He had
carried it for about two years, but had been
hastily turned out on the presence of his not being a pre-
late, agreeably to the institution of the court.
At the battle of Langside, May 1568, Balfour was in the
rear of the army, as regent, and displayed so little valor on the occasion; yet in the end of the same year, when the
regent and his commissioners were in England at a confer-
cence called by Queen Elizabeth to consider of Mary's guilt
or innocence in the matter of Darnley's murder, he remained in
Scotland, advanced to the lordship of Balmain, which he had
vested in his son, and continued independent and
independence. This conduct so incensed the Lord Lennox, that he
had him apprehended in order to be tried for the murder;
but by means, it is said, of bribes administered to Wood, the
regent's son-in-law, his effect was
and regained his liberty, though he lost his situation of
President of the Council, on which Balmain of Provand
now returned.
The year 1570 opened with the murder of the good regent,
by Hamilton of Bothwellhaugh, an event which appears to
have inspired Mary's adherents with great hopes. Of
these Balfour was now one; and on the 30th of August,
1571, he and some others of that side were attained in a
parliament held by the king's men. For a while the queen's
party had some success, and in September 1571 Mary was
made regent; but the aspect of affairs soon changed: an
alliance was formed between France and the Queen of
England, who also at length openly declared for the king's
party and lent her powerful aid to her regency. Morton,
who was a becoming regent, endeavored to effect a settlement with the queen's party; but all his
attempts were rejected by Maitland and Kirkcally. Balfour,
however, readily agreed to the triumphant Morton, whom he
had held as an associate of his, in his great success; and on the 15th of December, in January 1572 Morton
was made regent. He was mainly instrumental in bringing about the concord
called the Pacification of Perth, in February 1572, whereby
his late creditors were given over to the tender mercies of the
queen, and the brave Kirkcally he inflamed a further
war when he revealed to Morton that Kirkcally had
recently been about to land at Blackness with a supply of money from
France. In July 1572 Morton brought his victims to trial for Darnley's murder, and had them sentenced to the sealf
and bishop, but not only escaped a trial, but the
following year had his sentence annulled and himself re-
stored by act of parliament; and in 1574 the regent con-
trolled him, and Skene a design for a general digest of
the laws. What progress was made in this matter, and
whether Balfour's Practics was the result, does not cer-
tainly appear. Balfour did not remain much longer in the
country, dressing the ground on which he stood, until he
was made a knight by the young king of Scotland
assumed the reins of government. He then returned to his
native country, and joined the party which watched for the
destruction of the yet formidable Morton. The same year
he was made a squire by the Earl of Atholl, in token of the
success to which Morton had contributed. On the 5th of February, 1578, we find him at the
bar, as one of the advocates, or as they were then frequently
called 'preceptors,' for the prosecution in the criminal trial
of one John Skene, for the murder of his brother John. Morton recovered his authority, and Balfour again fled from
him.
An act was thereupon passed in Parliament, renewing
the forfeitures which had been pronounced in 1571, a
proceeding against which Balfour afterwards petitioned
the ground of his restoration in 1573; and Balfour's
though not immediately, was ultimately successful.
The death of Morton, whose enemies daily increased both in number and power, was now to be accomplished; and as
Balfour had taken care to preserve the bond by that noble
man's will, when in 1578 he appears as executor of
Darnley's plan was speedily devised: Morton was accused of treason, tried, convicted, and beheaded.

This was Balfour's last public act, and it too clearly shows that age had no degree which he could not use in the
purposes of this man. He died soon after, in the year 1583.
After his death, he was restored, against the for-
feiture of 1579, by act of parliament; but acts of parliament
can wipe off those taints only which human laws have
placed and which have been the pain and woe of many
thousands. To wash away infamy from the memory of the corrupt. (See Knox's "Hist. of the Ref.;" Keith's "Hist. of the Ref.,
Goudie's "Preface to Balfour's Practics;" Tytler's "Life of
Craig;" Historical Account of the Senators of the College of Justice.)

BALFOUR, JAMES, of Pilrig, in the shire of Edin-
burgh, was admitted an advocate of the Scottish Bar on the
14th of November, 1730; and on the decease of Mr. Bay-(who
was the advocate of Scotland in the University of Edin-
burgh, in the beginning of 1738, but who, by the death of
Mr. Erskine, was succeeded by Mr. John Erskine, of Car-
nock, advocate (afterwards author of the well-known
Principles and Institutes of the Scots law), were presented by
the Faculty of Advocates to the patronage of the vacant chair,
who made choice of Mr. Erskine. Balfour was a remarkable
statesman, and a man of considerable erudition in Scotch
law, but having occupied himself much with philosophical science, he early became an opponent of the celebrated
David Hume, whose speculations he attacked in two
mas-
terious tracts, one of them entitled "Philosophical Dositations," the other, "Philosophical Dissertations." It is evident that opposition procures an antagonist's esteem, but Balfour's
had that rare merit. On the 15th of March, 1744, he
received from Hume a letter which began thus: "When
I write to you I know not to whom I am addre-
sing. I only know he is one who has done me a great deal of
honour, and for whose esteem I am obliged. If we be strangers, I beg we may be acquainted as soon as we think
proper to discover ourselves; if we be acquainted already I beg we may be friends; if friends, I beg we may be
so."
In 1754 he resigned his judicial office, having by the
death of Professor Cleghorn, in August of that year, been
elected his successor in the chair of moral philosophy, at
the university, to which he was re-elected, in May 1764, for the chair
of public law, and soon after this office he appeared to have been his lectures while in his former situation
under the title of Political Essays. In the spring of
1779 he resigned the chair of public law, and retired to
France, where he continued to till the same post, having spent (says the author of the Life of Balfour, who
must have known him well) a long life in the practice of
to those virtues which it was the object of his writings to so

BALKRASH, BALFOOHS, or BALFURUSH, a
town in the province of Masander in Peru, about
of the coast of the Peruvian coast and the
Balkrather, a town in the county of Ayr in Scotland, near the
sea. The town stands on a
of the coast.
forest of tall trees, which so conceal the buildings, that, except in the bazaars, it has no appearance of being a large and populous place. The houses, which are comfortable, well built, roofed with tiles, and enclosed by a wall, stand close to each other in distinct streets. The streets or roads are broad and neat, though chiefly unpaved; they are free from rubbish, and kept in good order. The bazaars extend full a mile in length; they are covered in from the sun and rain by a roofing of tiles and wood, and are divided by narrow alleys. The bazaar of Balifur is better than in almost any town in Persia, except Isfahan. Balifur is peopled almost entirely by merchants, mechanics, and their dependants. It is governed by a native, also a merchant, who is elected by a sort of popular levies; it is also more or less of a bazaar, and the principal products are rice, cotton, and sugar. Wheat is little grown, and what is used is imported from other provinces. Rice, buttermilk, bread, and other articles of diet, and sweetmeats, and the pomegranate are the principal food of all classes. The roads around are frequently impassable, owing to their being cut up by the numerous watercourses; even the great causeway of Shah Abbas, in the neighbourhood of Balifur, is quite destroyed. The bazaar is also, in the town, erected by Shah Abbas having fallen to decay. There are, however, about ten principal caravanserais, and thirty colleges, or medrasses, the place being almost as much celebrated for its merchants and commerce as for its caravans. The plain abounds with numerous reservoirs for irrigation; and near the city is an artificial lake of considerable depth, two miles in circumference, with an island in the centre laid out as a beautiful garden, and containing a palace. The Bolawai or Bawoli river runs through this lake, and empties itself into the Caspian at Meshed-Sher. A bridge of nine arches has lately been thrown over it. The trade is carried on by horses and mules, which travel in caravans. The place is unhealthy, and subject to those diseases which may be expected from its low and damp situation — acute and intermittent fevers, affections of the eye, putrid sore throat, and rheumatism. Its population is estimated at 20,000. It is also well supplied with interminable oracles, but fearing that his son, who was afterwards ordered also, might not follow his example, he destroyed almost the whole of the stock, and committed, at one time, two hundred and fifty sermons to the flames. The third edition of Mr. Balugy's Sermons is in 8vo, London, 1763. He died at Harrowgate, September 21st, 1748. The account of Mr. Balugy here given has been chiefly abridged from the life of him communicated to his son by the editors of the Biographia Britannia, ed. 1778, vol. i. p. 548—552.

BALUGY, JOHN, an eminent divine of the church of England, was born August 12th, 1686, at Sheffield; and was educated at the free school of Ripon in Yorkshire. In 1712, he entered at St. John's College, Cambridge; took the degree of B.A., 1738; M.A., 1741; D.D. 1758. In March, 1748, he had been elected Fellow of his college, upon Mr. Platt's foundation, which he vacated in 1748, upon being presented by his father (under the right of his prebend of Salisbury) to the living of the parish of St. John the Baptist, in Grantham in Lincolnshire. He was also for a time joint tutor of St. John's College. By the interest of Bishop Hoadly he obtained a prebend in the cathedral of Winchester in 1739. He became archdeacon of Winchester, and afterwards archdeacon of Winchester. In 1759 he published a sermon preached at Lambeth at the conclusion of Jonathan Shipley, D.D., bishop of Llandaff, which was attacked by Professor MP. In 1747 he was presented to the dean and chaplain of Winchester, the living of Alton in Hampshire, upon which he resigned his former living of Stoke. In 1773 he published A Defence of Subscription to Articles in Religion, in a charge delivered to the clergy of his archdeaconry, which produced a reply from...
a dissenting minister of the name of Palmer. His sermon
at the consecration of Bishops Ward and Moore, also
some Remarks by One of the Petitioning Clergy. In 1775
he edited the sermons of Dr. Powell, master of Jesus
College, Cambridge, with a life of that divine prefixed.
In 1781 the declining state of his health, and particu-
larly the declension of his sight, which ended at
60 in total blindness, prevented his acceptance of the
bishopric of Gloucester, to which his Majesty, without any
solicitation, had nominated him upon the death of
Bishop Warburton.
In 1782 he published Divine Discourses and the
Reflections of Ancient and Modern Sects, 8vo., thought
to be by far the ablest of his performances, though
only part of a large dissertation on natural religion, which he did not live to complete. It was
Redemption, with a preface, seemingly intended to bring his father's sentiments nearer to the
orthodox belief. A collection of his sermons and charges
appeared the same year, under the title of Discourses
on Various Subjects, 8vo. These were again printed in 1822
at Cambridge, with alterations, in two volumes, edited by
the Rev. James Drake. Dr. Balgay died January 19th, 1795,
in his 79th year, at his prebendal house at Winchester,
and was buried in that cathedral. In 1811 a collection
of his sermons with the feudal acts and the English
constitution, which Dr. Balgay had composed while resident at
Cambridge as tutor of his college, was published under
the title of 3. Compendium of the several Steps by which
the Establishment of the Church is guarded, and the
Indulgences and Liberties of the People are guarded. 2. The
Maxim that Power follows Properly applied to the
History of the English Constitution, 8vo. The chief
materials of this account are derived from Nicholls's Life of
Bonage; Chalmers's Brose, Disq, vol. iii. p. 383; and
the Memoir of Dr. Balgay, prefixed by Mr. Drake to his
edition of the Discourses, 8vo. 1822.

BAIL ISLAND. [See Bally.]

BALIOL. [See Baliol.]

BALTIC ANTHOLOGY.

BALTISSE (in Zoology), an extensive genus of fishes,
belonging to the Cuvierian order Plectognathae, and
tamily Sclerodermea. The groups thus designated by Baron
Cuvier are intermediate in point of structure between the
common, or oceaneous, and the cartilaginous tribes; for though
the skeleton is in reality of a fibrous or bony texture, it
occurs very slowly, and is never entirely complete; the
ribs, in particular, usually remain imperfect throughout the
whole period of the animal's life. The maxillary and inter-
maxillary bones, again, form but a simple piece, distin-
guished only by a slight suture or furrow at the point of
junction, and the palatal arch is soldered firmly to the skull,
and consequently devoid of individual motion. The oper-
cular and gill-rays are concealed beneath the skin, which
get its peculiar appearance from their even and sub-
professed naturalists, that these fishes wanted the bronchial
apparatus altogether; an error, which, like many others of
a similar nature, had its origin in hasty and defective obser-
vation. Dr. Balgent, however, in the cultivation of compar-
tive anatomy, the only true basis of zoology, has long since
corrected.

The balistes are particularly distinguished by the vertical
compression of the body, by having eight teeth arranged in
a single row in each jaw, and a scalloped or granulated skin.
They have two dorsals: the first composed of numerous
powerful spines, articulated to a peculiar bone, itself articu-
lated to the skull, and furnished with a longitudinal furrow, which can be erected or depressed at the will of the animal; the second bone is
soft, or without spines, and placed opposite to an anal fin
similar in structure. Like other genera of the same order, the
balistes have no nuchal fins; notwithstanding which, how-
ever, their skeleton is furnished with a complete pelvis,
suspended from the bones of the shoulder. The intestinal
cast is large, but without caeca, and the air-bladder of
considerable size. These fish abound in all the seas of the
tropical zone, where they swim on the surface of the water,
perch themselves upon the coral reefs, and explore the
rocky coasts and over-
reets, feeding with avidity upon the polyps of the latter, and
shewing with the most brilliant and varied colours. Their
fish is at all times a very indifferent food, and is said to be
the staple article of diet in the periods when the coral worms
are in season. The species are very numerous, though
peculiarities or useful qualities which would enable them
to a detailed notice. They are easily distinguished by the
irregular form of their large and hard scales, which are
disposed in regular rows, not overlapping one another as in
the generality of fishes, but merely touching at their edges,
and thus giving the whole body the appearance of being
divided into so many regular compartments. Though, as
already observed, they have no real abdominal fins, yet
a few isolated spines are often found in the vicinity of the
pelvis, which have been generally considered as representing
these organs; and the greater number have the scales
very minute on the upper cheek and the head.

BALIZE, or BELIZE, the chief town of British
Honduras, is situated on the coast of the river of
the same name, which divides the town into two parts, and
acrossed by a substantial wooden bridge of 220 feet span, and
20 in width. The number of houses amounts to nearly 250:
many of them are convenient, well-built, spacious, and even
elegant, constructed entirely of wood, and raised eight or
ten feet from the ground, on pillars of mahogany. The
town is immediately open to the sea, standing on a low
shore, guarded by numerous keys, or small islands, which
afford assistance to vessels of war. The navigation is so
reagent the navigation extremely difficult. The
grassy

The word Balize is a corrupt spelling of Waliz, the name
given to this spot by the Spaniards in consequence of the
colour and nature of the ground being much resorted to by
a piratical Englishman named Wallace.

Besides several batteries, the town is defended by a regular
fort, called Fort George, situated on a small islet at
the entrance of the river, which has been principally formed
of the ballast from shipping, every vessel being obliged to
leave a portion: it is only 600 feet long, and 200 broad.

The first settlement of Balize is uncertain, as the early
visitors were merely the mahogany and logwood cutters,
whose residences were but temporary. The first estab-
lishment of the English in this district, according to the
treaty with Spain in 1670, was 1671. The first settlers were
ad

venturers from Jamaica, who fixed themselves at Cape
Catoche, and gradually extended their location to Balize.
Great hostility was shown to this settlement by the Spaniards
who were living in a fortified town, called Cristobal, at one
of these points of territory, and who were at different times fitted out with the object of driving
away our countrymen. These attempts did not succeed, but
on the contrary the English settlers and seamen on the
grounds (an attack by the Spaniards) attacked and took possession of the town of Campeche.

Our right to maintain a settlement in this place have
been recognized by the crown of Spain, in a treaty concluded
in July, 1670, the English establishments were opened,
and in a very short time the residents (all from white
persons) amounted to 1,700.

In 1718 a Spanish force was collected at the head of the
cove Balize, with the object of dispossessing the British
but after remaining there inactive for a time sufficient
the Spaniards were allowed to fortify and protect the port of.
North America, the Spaniards withdrew without striking a
blow. In 1754 the desire of the Spaniards in this respect
was, however, fully executed, and the English cove was
broken up. At the meeting of the representatives of Great
Britain and Spain, permission was given to form the settlement anew; and in April, 1754, the British logwood cutters
returned to their former station. It was not till the roused
command that their attention was directed to the cutting of
the mahogany, which was in great demand in the British
is the industry carried on by the settlers. In September, 1818,
the English were again expelled, and their settlements
destroyed, but the treaty of 1754 put them once more in a
position, which, with the exception of an unsuccessful attack
by Spaniards in 1809, has been uninterrupted ever since.

From the first formation of an English settlement in the
Bay of Honduras to the year 1741, the magistrates were elected by the inhabitants; but in the year just mentioned two commissions were appointed by George IV. for the government of the colony. The chief authority in the settlement is at present held by a superintendent nominated by the crown. Seven magistrates are annually elected by the inhabitants to act as a council, at which the superintendent presides. The magistrates act gratuitously, and as they number 40, the public funds of the colony, they form a body of importance.

The neighbourhood of Balze abound in lakes, and swamps quite overflowed during the rains. An extensive moor to the northward is now being drained. The inter-course with the coast, which by the canal of the Hiclot, now in repair, is only conveniently performed by the river. The commerce of Balze is very confined, consisting almost exclusively in the exportation of mahogany and other woods; but within the last few years the government has opened a new market for the consumption of articles of British manufacture. The climate is generally moist, but is considered healthy; the place is constantly refreshed by the sea-breezes (except for a few months) tempering the heat, which, however, is not excessive. The thermometer seldom rises above 83° in the hottest time, and during the wet season sinks to 60°. The variation of temperature during the twenty-four hours is very great, frequently 25°. [See HNB.]

The river Balze takes its rise in the mountains which bound the Honduras territory at the distance of about one hundred miles direct from the sea-shore. Its course is in a east-north-east direction, very tortuous: it discharges itself into the sea by two mouths, one, as already mentioned, at the town, the other, at a point about three miles south, and a half to the north-west; the latter is, however, not accessible. The falls in different parts of the river, and the severity along the banks, are extremely grand. Eight or ten miles above the lakes at the back of the town, the rapids begin; and farther on is a rapid, a quarter of a mile in length, and with a considerable fall. Above that, the river winds its way, by a natural tunnel through a ridge of hills which crosses its course, in singular and magnificent subterranean caverns, so that the mountainous nature of these caverns are filled with water, which boils up with prodigious fury.

Gold has been found in a branch of this river called Rosario Creek; and another branch, called Labouring Creek, which lies in the same valley, contains gold and silver. But it is the property it possesses: its waters have a powerful cathartic effect, and a healing property when applied to ulcers.

The population, in 1833, consisted of 3,794 persons, independent of the negroes, and with its river and range it is the first mentioned number, 223 were whites, 1,788 free coloured people, and 1,783 slaves. In the same year the exports from the settlement consisted of 4,500,000 superficial feet of mahogany, 1,800 tons logwood, 2,500 tons of indigo, 1,200 tons of wood, 600 bales of mahogany, and 1,000 bales of some considerable quantities of tortoise-shell, hides, cocoons, and balsam. About five-eighths of the whole were sent to this country, and employed 9,000 tons of British shipping.

Musk, rice, yams, and plantains, are cultivated for the consumption of the inhabitants; and a considerable number of horned cattle are bred, and employed in the mahogany works.

Balze lies in 17° 29' N. lat., 88° 8' W. long.

BALZE MOUNTAINS, or GREAT BALZE, is a name which properly belongs to that range of mountains in Turkey in Europe, which, lying between the 42nd and 43rd parallel and the 23rd and 26th meridian, divides the plains on the Lower Danube from the rivers running southward to the Archipelago. But as in geography the name of a portion of a range is frequently used to indicate a larger mass, so this name also has been applied to its western continuation, and even to the whole mountain system which covers with its range and branches the eastern peninsula of southern Europe. But this application is not generally admitted, and has nothing to recommend it. The most considerable mountain-chain, and that which, by the extension of the term, may be called Balze, runs from the Black Sea to the Adriatic Gulf by the Black Sea, and extends in numerous branches on the banks of the Danube by which river it is separated from the Carpathians. The majestic Danube is here, for upwards of 60 miles between Golobres and Kiodow, narrowed by the two chains of mountains extremely wild and alpine character in the mountains of Cezena (pronounced Cherna), Gora, or Montenegro, which are inhabited by the Montenegrins. Proceeding farther east, between the provinces of Servia and Albania, it seems to increase in extent, in the broadness of its valley, and join the Sharad Dagh, or Kara Dagh, the Mons Scardus of the ancients. The highest part of the range lies still farther to the east, where it receives the names of Glu, Shen, Argon, and Pergo, and is said to be about three miles in width. Some summits attain the point of eternal snow. To the west of the town of Sophia, near the sources of the Ishk, a tributary of the Danube, and those of the Struma (Strymon), is Mount Orbelus, 9,000 feet above the sea, as it is conjectured. The lake Orbelus is theTERM, which is situated near the town, and was, according to the ancient history of the district, the birthplace of the Roman emperor. From Mount Orbelus the range declines to the south-east, and is called Doupisna Daugh, but it resumes its eastern direction again at the sources of the Mariza (the Hawa), and from this point, to the former situation on the shores of the Black Sea, it is called Balkan, or Emince Daugh; the latter name is derived from Cape Emine, with which it terminates on the Black Sea. This portion of the range is considerably lower than that farther to the west, and it is thought that its height does not exceed 1,000 or 2,000 feet above the sea. It forms the Hecumus of the Greek geographers, probably so called from its cold and snowy climate.

This range, like the whole mountain-system, is distinguished by craggy summits and steep sides, which render travelling in many parts impossible, and everywhere very difficult. Most of the narrow roads, of which only a few are passed in carriages, are made in the dry beds of torrents, and the traveller runs the risk of being drowned in them, as they are almost always filled with snow and ice, and frequented, or rather the only passable roads over it, are six in number, which, from east to west, succeed one another in the following order. The road leading from Shumla, or Ali, to Barak, or Haidos in Ruthsl, offers less difficulties than the others, as it traverses the lowest portion of the range, and is therefore the most frequented. By this road the Russian army passed the Balkan in 1829. The second, leading from Shumla to Karnabah, is much more difficult of the range than the former, and is much frequented, and is the least frequented. The fifth road leads from Sophia, or the Isker, to Tatar Basardishch, on the Mariza. It passes through the Kapuli Derbend (the Gate of the Gorge), which is exceedingly narrow, between steep mountains rising to a great height, and with the bottom of the road, which is covered with snow in the Emperor Trajan. The last three roads lead to Adrianople, and hence to Constantinople. These five roads traverse the Proper Balkan. The higher portion of the range, farther to the west, is only traversed by one road, which leads from Persia, or Prusiana, in Servia, to Uskup, or Skopas, in Macedonia. It is only passable by mules and asses, but much frequented, being the only road by which the produce of Macedonia is carried to the north.
which extend along its course, and forms numerous rapid
and whirlpools. At one place, called Demirkapi (the Iron
Gate), it is only 400 feet broad.

The country between the Dinaric Alps and the Bulgarian
Mountains, which comprehends the Turkish provinces of
Bosnia and Servia, is a truly alpine region, composed of
hills, mountains, and deep valleys. Its valleys in the
southwestern districts run parallel to the Balkan chain,
but in the northern they are transverse valleys. None of
the numerous chains of this tract are remarkable except
the Rugova Mountains, which run along the river Morava
or its western bank, from south to north, and have always
served as a stronghold for the Servians in their wars with
the Turks. The most remarkable rivers in this region are
the Morava, the Drin, the Bistrica, the Vardar, the
Mesta, and the Axios. The Morava may have a course of
200 miles, and drains an extensive country, more than onethird of this
alpine region.

The country to the east of the Bulgarian Mountains,
and extending between the Balkan and the Danube at an
average breadth of fifty or sixty miles, is not mountainous;
but only hilly, with many little plains between the hills.
Near the Danube it is quite a plain. No considerable
rivers traverse it, except the Isker (the Skis or Herodotus, iv., 49),
and the Dronja, which joins the Dronja near its mouth
Dunipsha Dagh and the Bulgarian Mountains, and which
breaks through the latter range before it enters the hilly
plain of Bulgaria (Herod., iv., 49).

The main rivers of this region and its southern
source is between

Do not hallucinate.
it is a place of no strength. There is a state of white marble in it which is pointed out as the throne of Elysium, or Cyphe.

The river of Balikh, Adria or Deba (the ancient Bac tus), which gave name to the city and province, rises in the mountains of the Hindoo Kosh, and enters the plain of Tous between the nine and the ten thousand fathoms. According to Quintus Curtius (vii. 4) it formerly washed the walls of the town, or, according to Strabo, ran through it; but this is not the case at present; for at the point where it leaves the mountains it is distributed with great labour over a distance of sixty miles, but including it in numbers (sixteen to sixteen hundred), and conducted to the city, and also to Mazar and Akhshu on each side of it. Akhshu is about fifty miles from Balikh, but none of the other canals extend so far, though the waters of some canals have been conveyed to the Ouxus, and afford a source of water to the populous city of Sorkh manas. The gentle slope of the land towards the Oxus affords great facilities for irrigating the country, the soil of which is rich and productive, and will account for the great population and vast fertility that once existed in this province. Many of the canals are scarcely now discoverable, being nearly choked up. They frequently overflow and leave marshes, which may account for the unhealthy character of the country; intermitting rains and rheumatism are very prevalent. The inhabitants are governed by a provincial government, which is not far removed from that of the counties above described. Wheat ripens in that month, and the stalls grow high as in England. The fruit of Balikh is most luxuriant, particularly the apricots, which are nearly as large as apples; a shilling will purchase a thousand, and with sweet water the taste is exquisite. The town is surrounded by a wall, brought in quantities from the mountains south of Balikh. Persian coins, as well as those of the emperors of Hindustan, are found among the ruins; and it is remarkable, that in the Cancrini collection there is a bronze bust of the emperor of the present time that is that of the emperors of Delhi, who ruled prior to the age of Nadir. The trees, fruits, and corn of Balikh have a great celebrity; and its horses are equalled. Balikh yields no revenue to the crown of Persia; but the lands within the walls, amounting to about 13.000L., are granted to the chief who protects it.

Balikh is in 35° 46' N. lat., and 67° 18' W. long.

(Burnes's Travels into Bokhara, &c.)

BALLAD, in poetry, a popular song or roundelay, generally sung or recited. Bishop Percy says, the English word ballad is evidently from the French balade, as the latter is from the Italian ballata; which the Crítica dictionary defines 'Canzone se si canta balando, a song which is sung during a dance. But he adds that the word was first used in criticism; and that it was the Roman empire, these trivial songs were called ballatia and ballatiae. 'Ballatia.' Salmasius says, 'is properly ballatium, Gr. Ballatorion, or balabaiion, &c. Ballatore, &c. A ballator is said to be a man who deduces vox nostra.' (Percy, Rel. of Eng. Ant. Poet. svo. 1794, vol. i. p. xcviii. Salmas, Not. in Hist. Aug. Script. vi. p. 439.)

Ballads and rude poetry have been, in all countries, the earliest memorials of public transactions; and in the savage state of each were invariably used to recount and perpetuate a martial spirit. Tacitus tells us that Arminius, long after his death, was remembered in the rude songs of his country (Anna. n. 82); and the same writer informs us that ballads were the only songs known among the ancient Germans. They have a tradition, he adds, that Hercules visited those parts, and they sing his praises, when rushing to battle, in preference to all other heroes. (De Morb. Germ. sect. ii. SS.) Saxo Grammaticus, speaking of the Northmen, speaks of them as a nation who in the times of King Olaf the Saint, they dwelt upon materials of their history from Runo songs. The Scandinavians had their Scalds, whose business was to compose ballads, in which they also celebrated the warlike achievements of their countrymen. With almost similar merit existed in Gaul, Britain, Wales, and Ireland; and it must not be forgotten that when Edward I. formed the plan of subduing Wales to subjection, he thought it necessary to destroy the bards. Their compositions, however, survived; and an inscription on the slab at the Church of Queen Elizabeth's time, determining North Wales, says, 'Upon the Sundays and holidays the minstrels of all sorts of men, women, and children of every parish drawn to meet in sandy places, either on some hill or on the side of some mountain, where their harpers and minstrels sang these songs of the doings of their ancestors.

(Ritson's Orig. Lay of the Camp. 2d ed. vol. i. p. 49.) Even in the New World, the American savages had their rude songs and rude poetry, in which they sang the adventures of those who had fought and died for their country. Garci- zano de la Vega says, that in warring his history of Peru he relied himself of old songs and ballards, which a pru- dent man of the race of their Incas taught him to get by heart on his infancy.

In process of time, as manners refined, the ballad in every country by degrees included a wider range of subjects: it was no longer solely employed in rehearsing valourous actions, but included all the incidents of the wild adventure, occasionally becoming the vehicle of sentiment and passion; and no festivity was esteemed complete among our ancestors in the eleventh, twelfth, and thirteenth centuries, which was not set off with the exercise of the minstrel's talents over the pipes and the rude music of some other harp, and was every where received with respect.

As intellectual gratification advanced, however, these performances gradually lost their attraction with the superior ranks in society.

When language became refined,' says Dr. Aikin, 'and poetical taste elevated by an acquaintance with the Greek and Latin authors, the subjects of the epic verse were no longer confined to the records of the heathenism of antiquity; the monarchs of the sacred and profane history assumed the borrowed ornament and stateliness of heroic poetry, and every poetical attempt in the sublime and beautiful cast was an imitation of the classic models. The native poetry of the country was reduced, like all the rest, to refraction by the plagiarizing practices of the moderns; and the ballad was brought in to copy, to magnify a comic story, told in low familiar language, and accompanied by a droll trivial tune. It was much used by the way of the tune as a vehicle for laconical and mirthful reflections; and a vast variety of the most pleasing specimens of this kind of writing is to be found in the witty era of English verse, which I take to be comprehended between the beginning of Charles II's reign and the times of Swift and Prior. Since that period, the rustic bard, the minstrel of the land, the poet of the earth, the person of the country, good, and instructive, has been replaced by the poet of the muse, the polite, elegant, and tender; and a real or affected taste for beautiful simplicity has almost unequally prevailed.' (Eusebius on Song Writing. 6vo. London, 1728.)

In the further progress of literate taste, these compositions came to be considered as objects of curiosity, on account of the insight they afforded into the manners and modes of thinking of remote times; while the strokes of nature with which they abounded, and the artless simplicity and strength of their language, served as models to the second rank of poets. Simultaneously, they had long ceased to be current in popular song or recitation; they were carefully collected by portico antiquaries, and elucidated by historical notes; and then a secondary importance was attached to them, as full sources of information respecting the manners and customs of a former age; and the bard was then changed to the history of the muse. (See Aikin's Essay prefixed to his Vocal poetry. 6vo. London, 1810.)

Among numerous other collections of our own national ballads, Percy's Reliques, Evans's Old Ballads, Historical and Narrative, and Ritson's Ancient Songs from the time of Henry III., stand conspicuous. Pinkerton, Jukes, and Finlay have collected the British Ballads; and by Walter Scott the particular Minstrelsy of the British Border. Of those of other countries we cannot omit the Spanish ballads so frequently quoted by Percy from Historia de las Cruces Guerras de Granada, Md. 1794; and the Collection of Poemes Castellans anteriors al Berg XV., by D. Tomas Antonio Sanchez, 3 vols. 4to. Madrid, 1779; among the Italians the Cantu Campanioloque de la time of Acuto, &c. In the Roman and the Lombard ballads; and the Roman and Lombard ballads of Provence; and the canon Manasses those of the Spanish poets.

Ritson says the number of our own ancient printed songs and ballads which have perished must be considerable. Very few exist of an earlier date than the reign of James I., or even of Charles I. Being printed only on single sheets, which would chiefly fall into the hands of the vulgar, who had no better method of preserving their favourite compositions than by pasting them upon the wall, their destruction is easily accounted for. The practice of collecting them into...
books did not take place till after Queen Elizabeth's time,
and is probably owing to Johnson and Delaney (great bal-
ad-mongers), who when they were advanced in years, and
incapa ble, perhaps, of producing anything of merit, seem
to have contented themselves with collecting their produc-
tions in small compositions into little penny books, en-
titled Garland; of these, being popular, and often re-
printed, many are still extant, particularly in the Pepysian
library. (Diss. on Ant. Songs and Music, p. lxii.)

The earliest specimen of Scottish song, after the Scots
speak the English language, is preserved in the Rhyming
Chronicle of Andrew Wytoun, prior of Lochleven, writ-
en as is generally supposed, about the year 1450, in which
he relates the song which was made on Alexander III,
who was killed by a fall from his horse in 1266. Ritson has
given it in his Hist. Essay to his Scottish Songs, vol.
1, p. xxiv. (See Alexander III., vol. 1, p. 306.)

The earliest English song, separately printed upon a
single sheet, is said to have been produced upon the downfall
of Thomas Lord Cromwell, a.d. 1540.

An ingenious Frenchman, M. Meunier de Querlon, pro-
jecting writing the history of his country by a chronological
series of songs and ballads.

The effect of the ballad in raising the passions has been
known, and felt even in late times. The 'Marseillaise Hymn,'
and Burns's song of 'Scots wha has wi' Wallace bled,' are
sufficient proofs of this. Andrew Fletcher, of Saltoun, in
speaking on the poetical persons who hon. the ballad, be-
lieved that if a man were permitted to make all the ballads,
he need not care who should make the laws of a nation.
(Polit. Works, v. 296. Gleig, 1749.)

BALLAD: in music, a short air, repeated to two or more
stanzas, with the pauses of the person who sings it con-
inued in modulation, and having an accompaniment of a
strictly subordi-
nate kind. When an air, or its accompaniment, is florid, or
modulates into unrelated keys,—when, in short, either
assumes a more elaborated form, the expression generally
takes the name of song, or canzonet, even when several
stanzas are repeated to the same melody. [See Song, and
Canzonet.]

BALLANT (Daneh, Baglan: German, Dutch, and
Swedish, Balde; French, Laid; Italian, Suonara; Span-
nish, Lasta; Portuguese, Lasto; Russian, Bidaist), a
term used to denote any heavy material placed in a ship's
hold with the object of sinking her deeper in the water,
and of thereby making her capable of carrying more
without danger of being overset. Ships are said to be in
ballast when they sail without a cargo, having on board
only the stores and other articles requisite for the use of the
vessel and crew, as well as of any passengers who may be
proceeding with her upon the voyage. In favour of vessels
thus circumstanced it is usual to dispense with many
formalities at the custom-houses of the ports of departure
and entry, and to remit the payment of certain dues and
port charges which are levied upon ships having cargoes on
board.

By a recent regulation, a foreign vessel proceeding from a
British port may take on board chalk as ballast; and shall
not be considered as other than a ship in ballast in conse-
quence of her having on board a small quantity of goods of
British manufacture for the private use of the master and
crew, and not by way of merchandise, but such goods
must not exceed in value 20l. for the master, 10l. for the
mate, and 5l. for each of the crew.

Regulations have at various times been made in different
ports and countries determining the modes in which ships
may be supplied with ballast, and in what manner they
may discharge the same such regulations being neces-
sary to prevent the conveyance of ballast into harbours. It
has likewise been sometimes attempted to convert the supply of materials for
ballast into a monopoly. In vol. xx. of Rymer's Fœn. ed
p. 93, of the year 1636, we find a proclamation by King
Charles I., ordering that 'all persons trading on the river
Thames but a person appointed by him for that
purpose,' and thus appointment was sold for the king's profit.
Since that time, the soil of the river Thames from London
Bridge to the sea has been vested in the corporation of
the Trinity House, and a fine of 10l. may be recovered from any
person for every ton of ballast which he may take out of the
river, within those limits, without the authority of that cor-
poration. Ships may take on board 'land ballast' from any
quarters or port of Woolwich, upon paying one penny
per ton to the Trinity House. For river ballast, the corpo-
ration are authorised by Act of Parliament (3 Geo. IV. c. u.)
to charge according to the following rates:

For every ton (20 cwt.) of ballast, not being washed ballast,
charged to any ship or vessel employed in the canal trade,
to pay 5s.

For every such ton, carried to any other British ship or
to vessels, the sum of 1s. 3d.

For every such ton, carried to any foreign ship or vessel,
the sum of 1s. 7d.

For every ton of washed ballast, double the above rates are
chargeable, in each case respectively.

Further sums are chargeable:—For every ton arrived in,
or unloaded from, the inward East or West indes, or West
India Docks, the London Dock, the Commercial Dock, the East
Country Dock, the City Canal, the Surrey Canal, or the Thames
Canal, 4d.

The receipts of the Trinity Corporation from this source,
in 1832, were 25,000l., and their expenses 23,000l., but the revenue is naturally fluctuating.
In the preceding year (1831) it produced, after payment of all charges, 64,000l.
14, 10.

The ballast of all ships or vessels coming into the Thames
must be unloaded into a lighter, and if any ballast be thrown
into the river, the master of the vessel whence it is thrown
is liable to a fine of 20l. Some regulations similar to this
are usually enforced in every port.

Some art is necessary in properly ballasting a ship. The
quantity required by different vessels of the same tonnage
varies according to their shape or build. If any great quan-
tity of heavy ballast, such as lead or iron, is dropped in
the bottom of the hold, the centre of gravity will be placed so
low that the ship will be laid in a line, and in bad weather will be in
danger of being de-masted it will besides impair her sailing qualities. A ship
then ballasted is said to be too stiff. On the contrary, when
a ship has too little ballast, or thus as it is so termed as to
make the centre of gravity too high, equal danger will arise: one
is then said to be too crank. The art of properly ballasting
ships consists in placing the centre of gravity so as to be
neither too high nor too low, and as such will give a great
measure dependent upon the shape of the vessel, it is not pos-
tible to give any particular directions concerning it, but the
task should be committed to experienced hands.

Ships that take on board cargoes of light goods require
also some portion of ballast, in order to lower the centre
of gravity in the water, and thereby enable them to carry with safety the necessary press of
sail.

Hume's Laws of the Customs: Report of Committee of
House of Lords on Navigation and Commerce (House of
Dover; Montesquieu's Dictionary. M'Culloch's Dictionary.)

BALLAST-OFFICE CORPORATION, DUBLIN.

or, more correctly, the Corporation for Preserving and
Improving the Port of Dublin. This Board was created,
in 1822, by the 18 Geo. III. c. 114, and consists of twenty-three members, viz.: The Lord mayor and sheriffs, for the time being, of the city of Dublin, three
ship-owners, chosen by the Board of Aldermen from their own
body, and seventeen members who were appointed; one

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first instance, by the Act of Incorporation, and who are, on all future vacancies, empowered to elect new members, but leaving the city members as members of the Board. Among the seventeen members of the Board are two peers; the remainder are generically merchants of Dublin.

This self-elected body is endowed with extensive powers to enable it to carry on the works and to improve the port of Dublin; besides which, it has an exclusive right, similar to that exercised by the Corporation of the Trinity House in London, with ballast ships, with lights, and with all the properties of the port of Dublin. In 1810 the management of all the light-houses on the coast of Ireland was transferred from the Commissioners of Customs to the Ballast-Office Corporation in Dublin, which, however, exercises this part of its duty under the Minister of the Ordnance. The Board are the brothers of the Trinity House in London. The examination and licensing of pilots for the port of Dublin is also performed, according to the provisions of the before-mentioned act of incorporation, under the direction of the Ballast-Office Corporation.

The Board is empowered to demand and receive 1s. per ton from all foreign vessels, 6d. per ton from national vessels employed in foreign trade, and 5d. per ton from all roasting vessels and colliers, which enter the harbour of Dublin, towards defraying the expense of preserving and improving the port. Power is likewise given to charge to British vessels 1s. per ton, and to foreign vessels 4d. per ton, for all the ballast supplied. The Board likewise collects the high rate of duty on ballast sailing up to or from ports on the lower St. River. The revenue from this source amounted in 1833 to £45,018s. 3s. 4d.

The Ballast-Board has greatly improved the port of Dublin, by rebuilding the walls of the river Liffey, and by deepening and extending the harbour. In addition to the revenue, which is a very extensive work of the latter kind was undertaken, in the execution of which powerful steam machinery is employed. Since 1820 the Board has expended, for the erection of light-houses and the building up of light ships, the sum of £13,870, which has been defrayed out of the surplus dues, and as there is no debt owing by the Board for light-houses.

There are now thirty-five lights supported by the Ballast-Board, three of which are floating lights. Vessels engaged in foreign trade are reimbursed out of the dues collected over the pay towards the expense of these lights one farthing per ton for each light-house passed: the same charge is made on coasting-vessels when loaded, but if proceeding in ballast, only one-half the rate is demanded from the latter class of vessels.

BALLET, a theatrical representation, in which a story is told by gesture accompanied by characteristic or illustrative music, and to which dancing (as mere salutation, scenery, decorations, &c., are the accessories.

The French word, ballet, is often used even for its pronunciation, to the French, who had it from the Italian, ballare, to dance; the latter having been derived from ballo, which has the same meaning.

The French enumerate three kinds of ballet, namely, the ballet d'action, or ballet de pantomime; the opera ballet; and the comédie-ballet. The two last are not now in use: the first is that above described, and the only true ballet; for those which consist of little else than steps, leaps, parabolas, and entrechats, are unworthy of the name, and, in fact, are divertissements: in which, as Rotisseur remarks, there is no subject, no connexion, and the best performers tell you nothing, but that they dance well. These, however, under the name of ballet, are what are now most commonly produced in France. These two kinds of ballets, that is, the person and unattended action being more applauded than expression and true gracefulness, have almost superseded both.

"ballet," says M. Noverre, who by Garrick was called The Shakespeare of Dance, "perfect in all its parts, is a picture, drawn from life, of the manners, dresses, ceremonies, and customs of all nations: it must, therefore, be a complete pantomime, and through the eyes speak to the very soul of the spectator; and being a regular representation, ought, as far as is possible, to be under the general rules of the drama. If it does not point out with perspicuity, and without the aid of a program, the passions and incidents it is intended to describe, it is a divertissement, a succession of dances, and nothing better. "(Leons sur la Danse.)

Appropriate music is a constituent part of a good ballet; it supplies the language which action alone cannot speak, and is grave or lively, energetic or tender, according to the passion or sentiment meant to be portrayed on the stage. By its rhythm it also regulates the motion of the dancer; and all the performers in the ballet are indiscriminately called dancers, who, according to whose every act, is more or less measured. Aristotle, in his Poetics (cap. in.), goes so far as to say, that there are dancers who by rhythm applied to gesture express manners, passions, and actions. The ballet must therefore be carefully attentive to locality and to nationality. Almost every civilized nation has, in addition to a general style of melody, a style peculiarly its own; and by a judicious adoption of this, an unceasing addition is made to the interest and the reality of the scene, though it be only the exhibition of the dress of the chief brothers of the ballet. The real art of a cannibal nation, to which he made certain barbarians dance. The occasional and cautious use, too, of melodies which recall to mind any thing, whether in the shape of narrative or sentiment, analogous to what is representing on the stage, is practically found to heighten the effect of the action. But in having recourse to such means great judgment must be shown; for if the composer is not sufficiently and experienced, he runs considerable danger of exciting ideas very foreign to those which he intended to raise.

To the antients, what we call the pantomime-ballet was well known. The Rev. Robert Nares, author of Remains on Dancing, says "the ballet of the ancients is not a mere entertainment, but a religious exercise, and before he had arrived at those dignities in the church to which his great learning and high character entitled him, says, speaking of what he calls the dance, meaning the mimetic part of it, "Being in its origin used in the service of the gods, and in the worship of the god of love. And not to be despised in its ecstacy, for its power and efficacy, which many times it never possessed. The most sacred mysteries of heathenism were thus accompanied. Apollo, in a passage of Pindar, is called the Dancer (opus servus); and there is a well line which represents Jupiter himself in the very act of dancing. Even at Rome the worship of the Vestals was on the whole much less respected, the priests of Mars, to whom the care of the sacred aincula was committed, were from their customary and solemn dances, denounced (from sickness) to be burnt at the stake. In the days of Xenophon, in the person of their master, Socrates, speak very favourably; and Aristotle ranks it with the art of poetry. Plutarch, in the last book of Symposiac Questions, considered it worthy of distinct discussion. And Lucian, in his author certainly not deficient in genius or sagacity, has left an express eulogium, in which he scruples not to prefer the orchestra to the speaking dramas. "The Greeks," says Athenaeus, "had brought their dances to such perfection, in the art of imitating the passions, that the most eminent among them made use of them for the decoration and designing the attitudes of the public dancers. And to this study (he adds) they owed, undoubtedly, some of the transcendent beauties of their works."

M. Noverre, between forty and fifty years ago, operated a great change in the ballet, and restored it to nearly the dignity, considered as a public amusement, which it supported among the antients. His Médic, his Déserteur, and his Fidele, are still spoken of with enthusiasm by the few who remember them. The influence of these works lasted many years; but at length fashion, almost always opposed to good sense and good taste, would view with favouring eyes nothing but that which passes under the name of dancing; and what ought to be the ballet, is now, with occasional exceptions, limited to a mere exhibition of the dancer, and even good grouping is generally neglected; and vaulting, spinning, and distortion of limb threatening dislocation, are the only exhibitions that gain any applause, and consequently the only attainments to which a performer's labours are directed.

BALLINASLOE, a town in the county of Galway, in Ireland, on the west side of the river Suck, a tributary to the Shannon. Though a small place, Ballinasloe is one of the most picturesque towns in the province of Connacht (province of Ireland). It is celebrated for its great wool fair, which is held on the 13th of July. This fair was established by Mr. Trench, in the year 1757, and the town is now the property of his grandson, Viscount Dunlo. The same commodious building is still the centre of the wool country, and the efforts made by Mr. Trench and his successors to afford every
accommodation to those who frequented it. Ballinasloe eventually became a place of great resort and more extensive business than the fair of Mullingar. For some time past, the trade of ballinsloe has been carried on by the fair of Mullingar. For some time past, the trade of ballinsloe has been carried on by the fair of Mullingar. For some time past, the trade of ballinsloe has been carried on by the fair of Mullingar. For some time past, the trade of ballinsloe has been carried on by the fair of Mullingar. For some time past, the trade of ballinsloe has been carried on by the fair of Mullingar.

Ballinasloe also has a large cattle market, which is held in October; it begins on the 5th and ends on the 9th, the commencement of the present season, the number of cattle sold at this fair is 10,000, and of sheep, 100,000. Owing, however, to the increased cultivation of the soil and other causes, the number of sheep brought to Ballinasloe market is supposed to have diminished in late years, and in 1883 it was only 400. Ballinasloe is a handsome town. It has two breweries, and a barracks for cavalry and infantry. There are several public schools, two of which are supported by voluntary contributions. A canal was formed a few years ago, which makes a communication between the town and the river Shannon. It is sixteen miles in length, and drains nearly 12,000 acres of bog. This canal was opened for the purposes of commerce in 1835. Ballinasloe is eighty miles west from Dublin in a straight line; by the road the distance is ninety miles. The population, in 1831, was 4140; in 1821 it was only 1811. (Camden's Britannia; Dr. Beaumont's Memoir of a Map of Ireland; Young's Tour in Ireland, vol. i.; Bevan's Topographical Dictionary of Ireland and the Hibernians; Topographical Dictionary; Parliamentary Papers, &c.)

BALIOL, or BALIOL, JOHN, the successful competitor with Bruce for the crown of Scotland, was descended from an ancient Anglo-Saxon family that held possessions in England, Normandy, and Scotland. He was the only son of John Baliol, lord of Galloway, and was born about the year 1259. In 1290 he first comes upon a record of historical notice, as one of the claimants to the then vacant Scottish throne. In 1293, claiming in right of his grandfather, the eldest co-heir of the only son of David, king of Scotland, that had issue living. A short explanation of the circumstance under which the Scotch throne became vacant will make the validity of Baliol's claim clear.

The late king of Scotland, Alexander III., was married to the daughter of Henry III. (father of Edward I.), then king of England. In 1281 Alexander gave his only daughter Margaret (who bore her mother's name) in marriage to Eric, the youthful sovereign of Norway; and, by the sixteenth article of the treaty of marriage, it was stipulated that the issue should succeed to the throne of Scotland in the event of failure in the male line. This failure shortly after occurred in the person of her husband, and the young queen was left without issue; by which circumstance, the only child of Eric and the Scottish princess, a daughter also called Margaret, and known in Scottish history as the absent ballads by the appellation of the 'Queen of Norway,' became the sovereign to the throne of Scotland. By the death of Alexander himself two years after by a fall from his horse, the Maid of Norway became rightful queen of Scotland. She was at this time but three years old, and a council of regency was appointed to execute the duties of the sovereignty.

Edward I., the abluest and most ambitious monarch of that age, had long regarded Scotland with the eyes of a feudal superior, and only waited an opportunity to assert his claim. Such an opportunity now presented itself. He was the nearest male relative on the mother's side of the infant princess, who was his grand-niece; and Eric, naturally anxious for the interest of his daughter, selected in favour of the protection of the king of England. Edward having already formed the design of uniting Scotland to the English throne, by marrying the royal heiress to his eldest son, the prince of Wales, promptly interfered and commanded obedience to the government of the regents. Every thing was going on in favour of his own claim; he was his ambition. He managed it so skilfully, that the first official proposal for the marriageemanstated from the Scottish parliament; the consent of the infant's father was soon obtained; the pope granted the necessary dispensation, and a treaty was drawn up, which secured the liberties and independence, but in reality left the claim to feudal superiority, precisely as it stood before the marriage was projected. But all these flattering hopes were suddenly destroyed by the untimely death of the young queen in 1290, which opened a new scene of strife and calamity to Scotland.

By the death of the Maid of Norway, the posterity of the three last kings of Scotland became extinct, and the throne became the possession of the next in line or law. Thirteen candidates presented themselves, each asserting the claims of birth and consanguinity; but the pretensions of the majority were so utterly groundless, that the contest was soon reduced to two—John Baliol, lord of Galloway, and Robert Bruce, lord of Annandale. The claims, relative and direct, of these two noblemen will be seen in the following table:

<table>
<thead>
<tr>
<th>Name</th>
<th>Claim</th>
<th>Marriage</th>
<th>Daughters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander III</td>
<td>King of Scotland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Margaret, d.</td>
<td>King of Scotland</td>
<td></td>
<td></td>
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<tr>
<td>Isabella, m.</td>
<td>John Baliol</td>
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<tr>
<td>John Baliol</td>
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This table shows that Baliol was the grandson of the eldest daughter; Bruce the son of the second daughter: the point at issue therefore was, whether the crown belonged of right to the representative of the eldest daughter, though more remote by one degree than the representative of the second, who was nearer by one degree—that is, in fact, whether the crown descended in the order of birth, according to the modern system of primogeniture, or was hereafter to be assigned in the order of proximity of blood. At the present day, the question would not arise, as in the unsettled jurisprudence of a barbarous age and race, the claims appeared to be so equally balanced, that a decision in favour of Bruce would by no means warrant the imputation of deliberate injustice. The claim of Edward I. to the throne of France, and of Ferdinand of Castile to the sovereignty of Aragon, jar much more violently with our modern principles of inheritance. The estates of Scotland were either afraid or unwilling to decide between the candidates, and it was determined to refer the decision to the controversy to one who was able to enforce it—namely, the king of England.

It does not belong to our present purpose to detail the proceedings by means of which Edward I. made this office of arbiter instrumental in imposing the claims of feudal subjection upon Scotland. It is sufficient for the present to state that, though Edward delighted in war, and considered the enlargement of his dominions the object of a sovereign, he was extremely partial to the formality—the letter, if not the spirit—of judicial proceedings. Though there can be no doubt that he employed his alleged feudal superiority as a mere means towards subjugating Scotland, he laboured to invest the proceedings with the garb of judicial deliberation and free agency. The declaration which he compiled the estates of Scotland to subscribe to acts by which he claimed to lord paramount of the realm, and as such was termed a feudal-king (without qualification) by which he engaged himself in the matter at issue—a declaration which bears the stamp of falsehood on the face of it—it is a striking instance of his respect for the forms and external observance of justice.

After a ten years' duration, the delegates to whom the English king referred the consideration, as a pawn of the law of inheritance, of the claims of the several competitors to the vacant throne, made their report unanimously in favour of the heir of the eldest daughter, that is, in favour of primogeniture; and accordingly placed the judgment, not as arbiter, but as feudal superior, that John Baliol, as the heir of the eldest daughter, should receive and have some of the kingdom of Scotland and all its dependences. This occurred on the 19th of November, 1292.
Next day Balilo swore fealty to the king of England in those words—‘Hear you this, my lord Edward, king of England, and sovereign lord of the realm of Scotland, that I, John Balilo, king of Scotland, do fealty to you for the realm of Scotland, which I hold and claim to hold of you; that I will and shall obey your just and lawful commands, and that I will bear you of life and limb and worldly honour against all men that may live and die; and loyalty I will acknowledge and perform the service that is due to you for the aforesaid kingdom of Scotland, so help me God and these holy gospels.’

The formal ceremony of fealty took place in November, and again went through the ignominious ceremony of vassalage within less than a month after at Newcastle. It is but right to add that the conditions of Scotland and England were vastly different—such namesake and grandfathers of the bards of Bannockburn—his head was not in the first stage of the inquiry, fully acknowledged Edward’s claim as lord paramount; so that Balilo’s oath of fealty after the decision in his favour was only in keeping with the proceedings. In point of fact, Edward interfered solely with a view to asserting his feudal supremacy, and would have asserted it by force if necessary. For this he has been fiercely denounced by the Scottish historians; but in truth with more patriotic zeal than soundness of reasoning. The Scottish king was in a fluid state, feudal superiority over Scotland was of long standing, frequently acknowledged, and though constantly evaded, very seldom openly denied; the assertion or evasion being wholly a matter of political advantage. In the meantime тех personal influence and courage of the king, and the internal condition of either kingdom for the time.

Edward’s object in causing the ceremony of homage to be renewed was soon seen. A number of petty indignities soon afterward, for which he lived and died. His lord paramount only waited a pretext to seize the fit into his own hands. To his subjects he dared not look for the means of throwing off the yoke of feudal subjection thus ignominiously imposed upon him. The mass of the Scottish people were indignant at the humiliating position to which the sodal ambition of the competitors for the crown had reduced their country. Appeals from the decisions of the Scottish king to his superior lord were encouraged. Every suitor in the courts of Balilo was disqualified with his judge lost, found in Edward a willing hearer; and within the first year of his reign he was served with no less than four citations to prove the legality of his decisions in the courts of the lord paramount. It was in vain that Balilo reminded the English monarch that he had distinctly covenanted on oath at Bingham, that no Scottish subject should be called into an English court to answer for acts done in Scotland. Edward haughtily replied, that the conditions of the treaty at Bingham were no bar to the judgment of a Scottish princess, and that it was his duty to administer even-handed justice to the lowest as well as the highest of his vessels. Balilo was timid and weak but not mean in spirit. The indignities bitterly mortified him, and he could not bear the thought of being held legally in answer to the complaint of the Earl of Fife before the king of England. He attended, but maintained that he was not bound to answer the appellant; that it was a matter which regarded the rights of the crown; and that he dared not answer without the advice of the good men of his realm. He was reminded of his oath of fealty, but told that he might have time to consult his council. He replied that he would not ask for either time or adjournment. Judgment was given against him. His feudal superior was formally given against him by the English court, which he, however, continued to ward off by the magic permission to consult his subjects. War ensued, and he lost his kingdom before the judgment was acted upon.

In 1295 war broke out between France and England. The estates of Scotland eagerly caught at so favourable an opportunity of asserting the independence of their country, and their natural rights to resist and defend the French monarch. The management of this was intrusted to a committee of nobles, the nation having no confidence either in Balilo’s patriotism or wisdom. Edward, the hero of the kingdom, faced the danger with the help of the gallant Balilo.

He first cited Balilo to appear before him at Newcastile. The summons was unattended to, the Scotch became determined to make a kind of honourable captivity in the highlands. This was in March. On the 5th of April Balilo sent to the English monarch a formal renunciation of homage in his own name and that of his barons. ‘Felon fool!’ exclaimed Edward, in a tone of scornful pity, ‘but since he will not come to us, we will go to him.’ The usual fortune of the English arms prevailed; and the Scotch were soon in a loyal position. Balilo was compelled to perform the most humiliating service of feudal penance. Mounted on a galloway, and bearing a white wand, the emblem of vassalage, he met his offended sovereign, and after expressing his sorrow for his alliance with the French king and rebellion against his liege lord, he was compelled to sign an instrument, in which he acknowledged the right of the superior lord to enter into possession of his fee after the renunciation of homage, and transferred to him the feuds which the Scottish barons and freeholders had sworn to himself. The formal renunciation of the king of Scotland took place on the 2nd of July, 1296, just four years after his accession.

Edward’s treatment of the deposed monarch was indulgent, and showed that he regarded him as a mere puppet of royalty in the hands of the lords of his council, who originated and conducted the war. From Kincardine, where he signed the act of abdication, he was transferred, with his son Edward Balilo, to the Tower of London, where he resided for three years, with some state, and a variety of subjects.

Edward being in a mood of severe penance the death of his son, which took place in 1314, just after the battle of Bannockburn.

Balilo is usually held up to scorn by Scottish historians as a mean-spirited prince who was short-sighted and unable to appreciate the value of a throne at the expense of his country and independence. But it required much more firmness and ability than he possessed, and much more favourable combination of circumstances than attended his elevation, to defeat the ambitious designs of his powerful neighbour, and to make the descent of Scotland in the unsettled times in which he lived. ‘To me,’ says Dr. Lingard, ‘he appears as deserving of pity as of blame.’ The contemptuous epithet ‘Tom Tubard’, ‘Empty Jacket’, bears significant usage, to the estimation in which he was held by his countrymen.

(Hemmingford’s Hist., and Ryder’s Pictara: Lord Hales’s Annals; Tyler’s History of Scotland; and Lingard’s History of England. The article ‘Balilo’ in the Biographia Britannica, compiled with unusual care and research, is worth consulting.)

BALLIO, or BAILIO, EDWARD, shared his father’s captivity in the Tower, and accompanied him to his paternal residence in Normandy. With the exception of his visits to the English court and to a few parliaments, and of the occasion when he was with Edward II. (with a view to intimidate Robert Bruce), and in 1327, it would appear that he led a life of retirement in Normandy till the year 1332, when we find him taking an active part in the enterprise of the Lords Wake, Beaumont, and other ‘querrellors’ (as the disinterested lords were called), to take forcible possession of their forfeited estates in Scotland. Many of the Anglo-Norman barons possessed estates both in Scotland and England, and during the war between Bruce and the English kings, which ended in favour of the former, their estates were seized by both the belligerents. An express clause, however, in the treaty of Northampton in 1327, restored the forfeited Scottish estates of the English Lords, and the re-establishment, under the sanction of this clause, the last two noblemen, after having in vain claimed its fulfilment from the regent and parliament of Scotland, determined to assert their rights by force of arms. Edward Balilo was readily induced to join in the adventure, and to support the common assertion of his interests which were most affected by the present state of things in Scotland.

The force collected by these adventurers for the invasion of Scotland was about 1500 men-at-arms, 2000 followers, and 1000 horse. Under the leadership of the grand master of the brothers of the temple, the victory of Bannockburn and with newly-won independence did not exceed 300 horse and a few foot soldiers. With this small body Balilo and his associates set sail from Ravenepar on the Humber—then a port of consequence, now a range of sand, hill and marsh.
dry at low water—having been prohibited by Edward III. (who, however, covertly sanctioned the enterprise) from marching armed men through the northern counties, or perpetrating any act which could be deemed a violation of the peace between the two kingdoms. The progress of this handful of invaders reads like a dream, for they encountered no resistance. On the 29th of March, landed at Kinghorn in Fife, defeated the Earl of Fife, and, with an increased force not exceeding altogether 3000 men, marched boldly across the country to invite an enemy at least ten times more numerous to attack them. The enraged Baliol encamped before Forres and, with the River Findhorn in its front. On the opposite bank the Earl of Mar lay encamped with a force of from 39,000 to 40,000 men; while a second army lay within eight miles of Baliol’s flank. His situation was desperate; and it would have been only too easy for his position to be turned. In the dead of night the English force crossed the Earn at a point where it was fordable, and attacked the sleeping and defenseless Scots before they were aware of their approach. The carnage was dreadful: 13,000 Scots, including the Earls of Mar and Moray, and many knights and barons, lay dead on Duffin Moor, the scene of battle; while the loss of England, as at the memorable field of Cressy, did not exceed a few gentlemen and foot soldiers. From Duffin Moor Baliol and his court departed to barrow, where, having been fully besieged by the Earl of March, the commander of the army that lay on his left flank when encamped at the Earn, this force having been disperst, the antecedents of his followers, and all persons disaffected to Edward, crept into France and made his standard, and he was crowned King of Scotland at Stome, on the 24th of September, only seven weeks from the day of his landing at Kinghorn.

So rapid a conquest, with means so disproportionate to the magnitude of the result, was only rivalled by the audacity with which it was overturned. Baliol having privately renewed to Edward III. all the forms of feudal subjugation imposed on his father by the first Edward, and concluded an armistice for the purpose of settling the kind of tenure whereby his dominion may be understood to be committed, was now encamped at Annan, where he was surprised by a body of horse commanded by the young Earl of Moray, brother to the Earl who fell at Duffin, and with difficulty escaped half naked to the English Marches, and without more than an easel. This event occurred on the 16th December, within less than three months from the date of his coronation.

Edward III. promptly interfered in favour of his usual allies; and on the 13th of January, Edward Baliol on the throne of Scotland. The loss of the Scots in this action was so great as to be deemed irrecoverable, and probably Baliol’s seat would have been firm had he not outraged the national feelings by the extent of his submission and the sentiment of homage and feudal service to the king of England was undertaken in the fullest terms. The town of Berwick was given up to him, and Baliol by a solemn instrument made an abject surrender of the town of Berwick, Roxburgshire, Selkirkshire, Peeblesshire, and Dumfriesshire, together with the Lothian. The price which he thus paid for a mutilated sovereignty proved his unworthiness to hold it. The nation turned with disgust from him to David, the infant son of Robert Bruce.

It would be a tedious and unprofitable task to detail the various fortunes of Edward Baliol till his final expulsion from the throne of Scotland. So long as he was supported by the king of England he exercised a nominal sovereignty, but the moment the king of England withholds his support, he was withdrawn, the deep-rooted hatred of the Scots against his vassal king broke out in fresh acts of resistance. Baliol himself so placed little reliance on his subjects, that he fled to England at every reverse of fortune. The feelings of the Balisotans and Balisotans are forcibly portrayed by an old historian quoted by Sir Walter Scott. (Hist. Scotland, Cbb. Ccc.) ‘*If you asked a grown-up person who was his king, he dared make no other answer save by naming Edward Baliol, while the unwieldy remembrance of childhood answered the same question with the name of David Bruce."

In this manner Baliol continued for some years to struggle against the obstinacy of his opponents, and the lukewarmness and petulance of his subjects. In 1344 he was compelled to fly, in consequence of a quarrel between the most powerful of his confederate barons. He was soon after restored by the arms of his Scottish master. Next year Edward III. again marched an army into Scotland, for the double purpose of sustaining his vassal and securing the territories which had been ceded to him. Fortunately for Scotland, the power and number of the English were not like to sustain after allured by a roo splendid prize, the conquest of France, which mainly engrossed his attention and resources for several years; during which, fortress after fortress fell from the hands of Baliol, while Edward, as King David, the bete of Bruce, daily acquired strength.

In 1353 Edward III. determined to put an end to the interruptions which the Scottish wars had constantly offered to his operations in France. He marched an immense force, and, coming up from the Clyde to Ayr, reached the French wars, with a view of effecting a final conquest of the kingdom, and annexing it, as Edward I had annexed Wales, to the larger and richer portion of the island. As a preliminary step he purchased Baliol’s rights to the Scottish war, or peace. This was easily arranged. In point of fact, Baliol had ceased to exercise the functions of royalties since 1314, when King David ventured to visit his kingdom, and, advanced in years, and without children or near him to succeed him, gladly exchanged the position of prince of Scotland for a retirement and calm asylum to the evening of life. He appeared before Edward attired in all the symbols of royalty, and formally devesting himself of them, and laying his royal crown at the feet of the English king, yielded to him all right, title, and interest in the dominions and hereditary regency of Scotland. For the surrender of a barren and disputed title he received a present of 5000 marks, and an annual annuity of 2000 sterling. With this splendid income (we quote Sir Walter Scott, Hist. Scotland, vol. i. p. 296) Edward strode into the Scotch court, and his name is never again mentioned in history. The spirit of enterprise which dictated the invasion of Scotland in 1322, and the adventurous attack upon the Scotch encampment at Duffin Moor, shows itself in no other part of the conduct of Edward Baliol. It is a marked characteristic of this prince that he made no suggestion of his own mind, but breathed into it by the influence of some master spirit among his counsellors. In battle he showed the bravery of a soldier, but in other respects he never seems to have displayed the talents, whether as warrior or peace. He died childless at Dunbar, in the year 1363; and with him ended the line of Baliol.

BALLIOl COLLEGE, Oxford. The founder of the college was John Baliol, or de Balio1, of Barnard’s Castle, in the county of Durham, in the thirteenth century, and a steady adherent to King Henry III. in all his wars and contests. The religious and political consequences of John de Balio1 were dignified by a love of learning and a beneficence of disposition, which was the gradual but final object of the college. The college was presented to him to maintain certain poor scholars of Oxford, in manner sixteen, by exhibitions, probably with a view to a more permanent establishment. On his death, in 1314, he recommended the objects of his bounty to his lady and executors only, leaving no written deed or authority for their support. As what he had previously given was from his personal estate, now in other hands, the care of them would, in all probability, have ceased, had not his wife, who married the Lady Devereux, having been put in the possession of the provost and prebendaries of the house of Balliol, this edifice, after receiving necessary repairs and additions, was called New Balliol Hall, the residence of the scholar. At the time the new building was commenced in 1393, he had already received a grant of the site, which was then beginning to receive the name of Old Balliol Hall. In the same year she made over
certain lands in the county of Northumberland, the greater part of which were afterwards lost. The foundation, however, was, about this time, confirmed by Oliver, Bishop of Lincoln, and by John Balliol, the founder's son, afterwards the ill-fated King of Scotland.

The revenues of this college were at first very small, yielding 4 shillings and 4pence per week to each scholar, or £7 2s. 4d. for the whole per annum, which was soon found insufficient. A number of benefactors, however, promoted the purposes of the founder by enriching the establishment with endowments, land, and churchings. In 1294 Hugh de Wykenbroke or de Wyken gave the whole manor of Lawsey and 8 acres of land in Jersey, London, and some other property in that parish. In 1310 Hugh de Warkenby, priest, and William de Gotham, a fellow of the college, gave four messuages in the town of Witham, for the，则和 a commutation in the chapter, which had been provided a few years before. In 1330 Richard de Hunsingore gave a tenement in Oxford, in St. John's parish, which is now part of Albans Hall, and some lands. But as with all these helps the scholars had no more, weekly, than the eight-pence before mentioned, and that no longer than until they became Masters of Arts, many of them were obliged to relinquish their studies, and even to follow mechanical trades for a maintenance.

The first benefactor who stepped forward to relieve them in this distress, and to support the college, was Sir William Feeton, knight, who, about the year 1340, gave them the rectory and manor of Aliboldely, or Abbotley, in Huntingdonshire, and a large representation in the borough of Ely. Sir John Feeton's gift, joined with him likewise in introducing a regulation, that the fellows might keep their place, even after becoming masters or doctors, until they succeeded to a living. About the same time, both their numbers and revenues were increased by the gift of the rector of Somerstey, or Wykenore, in Staffordshire, who gave the church of Long-Binton, with lands in the county of Northumberland, for the maintenance of six scholars, who were to be chosen by the college, and who were to be natives of the places nearest to the estates he made over to them, and such as were the poorest and of the most promising abilities. This benefaction was accounted so considerable as to give Sir Philip the privilege of introducing a new body of statutes, the principal articles of which were, that the society should choose out of their number one who should govern all the house, he and his successors to be always called by the name of Master; that after the election he should be presented first to the lords of the manor (albeit this was never done), and to be a native of Somerstey; secondly, to the chancellor of the university; thirdly, to the guardian or warden of the college; and lastly, to the extinct masters of this college, who were to assist at all the services of the college, and to be able to maintain the statutes, &c., of Sir Philip Somerstey. Other regulations were introduced respecting their studies, and the weekly allowance of the fellows and scholars was raised to 1s. 4d., which, in case of dearness of victuals, might be increased to 1s. 6d. These new statutes were dated October 16, 1340, and were confirmed by Aungervile, bishop of Durham, and by Edward Balliol, king of Scotland.

Two years after, Thomas Cate, rector of Welyke, in Yorkshire, left 100l. for the purchase of benefits in Lincoln, out of eight-pence of the number of scholars to be increased. William Brockley, clerk, to whose care this money was entrusted, purchased, in 1342, the livings of Fullingham, Risholme, and Brockley or Bratton, and the four livings of Drayton, to appear what number of scholars was added. Their number, at all times, seems to have been regulated by the state of their revenues, and to have fluctuated accordingly; and it was usually provided that the number of scholars on any particular foundation should be reduced, if the foundation improved inadequate to their maintenance, and thus any in"
the college books, according to the Oxford Calendar for 1834, is 277.

The master and fellows of this college, by their statutes, have the privilege of electing their own visitor.

The present visitor is the Archbishop of Canterbury.

Since its foundation, Balliol College has been governed by two statutes, one principal wardens, and forty-two masters.

Among the last, John Wickliffe, the reformer, is perhaps the most eminent. He is mentioned as master during the usury, but confirmed afterwards, in a work entitled Balliolensis, or a Commentary upon the Foundations, Founder, and Progress of Balliol College. It is a work in no great estimation.

The present master is Richard Jenkyns, D.D., elected in 1819.

Among the more eminent members of this college are enumerated Humphrey Duke of Gloucester, the first founder of a public library at Oxford; John Tiptoft, Earl of Worcester; Edward IV.; Ross of Warwick, the historian; Morton, Archbishop of Canterbury; the favourite of Henry VIII.; Tunstall, Bishop of Durham; Lord Keeper Coventry; Parsons, the celebrated Jesuit; Thomas Crap, reputed founder of the sect of Antinomians; John Evelyn; Gregory, Kell, and Bradley, mathematicians and astronomers; James West, President of the Royal Society; and Douglas, Bishop of Chester.

The Church livings in the patronage of this society are:

- The rectory and vicarage of Duloe, in Cornwall; the vicarage of Beere Regis, in Dorsetshire; the rectory of Alphington, near Exeter, the rectory of the curacy of St. Botolph, at Colchester, in Essex; the vicarage of Marks Tey, and the rectory of Tendring, in Essex; the vicarage of Abbotsbury, in Huntingdonshire; the rectory of Bratby, Fillingham, and the living, near Lincoln; the vicarage of the Dean and Chapter of St. Paul's, the vicarage of St. Lawrence Jewry, and the rectory of St. Mary Magdalen, Mill-street, in London; the vicarage of Mickle or Long Benton, in Northumberland; and the rectory of Kildale, in Northumberland, Huntspill, and Timberside, in Northumberland.

The more antient parts of the buildings of this college have been so completely changed by successive alterations, made in the course of five centuries, that it would be idle now to attempt to identify the original refectory, kitchen, othouses, and walks, ascribed by Wood to the lady Dervorgille, in the latter part of the thirteenth century. It appears, however, that old Balliol Hall stood westward on the ground afterwards occupied by Hammond's Lodgings, and Mr. de Lacey's ancient college, called for some time New Balliol Hall, was situated at the S. W. corner of the present quadrangle.

The oldest part of the quadrangle, as it stood in Wood's time, was the hall, and here, being rebuilt about the time of Henry VI. The whole of this, together with the south side as far as the tower, was either rebuilt or reosed about a century ago, by the aid of contributions from several benefactors, among the principal of whom were Dr. Henry Compton, Bishop of London, Visitor of the College; John Radcliffe, M.D.; and Sir E. Turner.

Nearly about the same period was erected, in the western extremity of the college, facing Magdalen parish church, a building formerly known by the name of the Bristol Building, being intended for the accommodation of certain exhibitioners from that city: the plan, however, for that purpose, was never carried into effect. The front of this building was cased with Bath stone in 1826, so that it corresponded with the adjoining new buildings then just finished on the north side; that on the south was erected in 1769, from a design of Henry Keene, architect, upon the sites of some old buildings, supposed to have been formerly St. Margaret's Hall. This was done chiefly at the expense of the Rev. Dr. Keene, and contributed 3000£ toward the work: he had been formerly fellow of the college, and vicar of Beere Regis, Dorset, where an inscription is to be found over his grave, similar to that which, by his own order, was placed on the building erected by his benefaction: VENIAM, DOM AMPLIATUR.

In 1825, several sets of rooms contiguous to the Bristol Building were pulled down; and upon their site was erected, by the masters and fellows, an edifice containing twelve sets of commodious rooms; the elevation and plan by George Bassett, architect.

The College Hall, which is on the west side of the quadrangle, was originally built in the reign of Henry VI.; but the present interior is modern.

The interior of the Library was rebuilt about the beginning of the present century, by Wyat, in imitation of the Gothic style.

The Chapel was built between 1521 and 1529. In one of the windows on the south side is the story of Herod's sickness and recovery, by Bernard Van Linge, dated 1647.

(See Wood's Hist. of the Colleges and Halls of Oxford, by Gutch, Vol. i. p. 224; also, the Transactions of the University, Oxford, 1800, vol. i. p. 43-41; Memorials of Oxford, by Dr. Ingram, 4to.; and the Oxford University Calendar, 12mo., 1834.)

BALLISTIC PENDULUM, a heavy wooden pendulum, in shape like a garden's spade; the lower part is a heavy cubical block of wood, plated with iron at the back; it was invented and used by Mr. Robins, the celebrated writer on gunnery, for the purpose of measuring the velocity of cannon and musket balls. It is of such a weight that the ball fired into it may not cause a vibration of very great extent. It is described at great length in Robins's Principles of Gunnery (we recommend Hutton's edition, London, 1805), prop. xii., and in Hutton's Mathematical Tracts, vol. ii. It is stated that any experiments with such an instrument should particularly attend to the cautions given by Mr. Robins, who learnt them at the risk of his life.

The principle is as follows:—The pendulum in its state of rest all but touches with its lower end a horizontal bar. To the lower end of the bar, and to the end of a rod, which passes through an orifice in the bar, moving almost freely. When, therefore, the pendulum is raised, a quasity of ribbon is drawn out, which, if the radius be the whole length of the pendulum, is the chord of the angle through which the pendulum is inclined by the shock. When a shot is fired into the pendulum, no more ribbon is drawn out, during the oscillations which follow, than was drawn out by the first rise of the pendulum; because friction and the resistance of the air counteract the effect produced upon it by the shot; required the velocity of the shot. The formula which answers this question is as follows:

\[ b = \text{the weight of the ball.} \]
\[ p = \text{the weight of the pendulum.} \]
\[ g \text{ distance from the pivot of the centre of gravity of the weight after the beam.} \]
\[ t \text{ distance from the pivot to the point struck.} \]
\[ c = \text{length of ribbon disengaged.} \]
\[ d = \text{distance from the pivot to the ribbon.} \]
\[ n = \text{the number of vibrations in a minute after removing the shot.} \]

The value of \( g \) may be determined by mechanical methods (see Gravity, Centre of): but if it be determined, as usual before the shot, then the value of \( g \) after the shot a

\[ g + \frac{1}{2} \frac{b}{t} \]

The ballistic pendulum, in the hands of Robins and Hutton, has given almost all the information we have remained regarding the velocity of cannon-balls, and the resistance of the air to rapid motions. (See Aerodynamics.) It has also tested the correctness of the predictions on this subject by Robins. (See Geometry.) We give the following results of the experiments, in which the greatest difference was found between the prediction from theory and the experiment, omitting all the circumstances of each charge, as no conclusion can be traced between them and the disorders. In the fourth and fifth of our list, the barrel had previously been in a
moist place. Considering the very great difficulty and uncertainty of the subject, the accordance is remarkable.

The first columns represent the length of ribbon disengaged (in inches and tenths), the first from experiment, the second from theory; the third is the difference between the two:

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Theory</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>17' 7&quot;</td>
<td>17' 8&quot;</td>
<td>+ 1/8</td>
</tr>
<tr>
<td>17' 9&quot;</td>
<td>17' 8</td>
<td>- 1/8</td>
</tr>
<tr>
<td>15' 0&quot;</td>
<td>15' 0&quot;</td>
<td>+ 0</td>
</tr>
<tr>
<td>15' 4&quot;</td>
<td>15' 3&quot;</td>
<td>- 1/4</td>
</tr>
<tr>
<td>11' 15&quot;</td>
<td>11' 2&quot;</td>
<td>+ 1/2</td>
</tr>
<tr>
<td>16' 16&quot;</td>
<td>16' 16&quot;</td>
<td>+ 0</td>
</tr>
<tr>
<td>17' 9&quot;</td>
<td>17' 6&quot;</td>
<td>- 1/4</td>
</tr>
<tr>
<td>13' 3&quot;</td>
<td>12' 5&quot;</td>
<td>- 7/8</td>
</tr>
<tr>
<td>14' 4&quot;</td>
<td>14' 0&quot;</td>
<td>- 4/8</td>
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<tr>
<td>14' 4&quot;</td>
<td>14' 0&quot;</td>
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</tr>
<tr>
<td>16' 0&quot;</td>
<td>15' 3&quot;</td>
<td>- 7/8</td>
</tr>
</tbody>
</table>

Average discordance + 18

When a heavier pendulum was used, the discordances
were considerably less. The friction of the pivots was not taken into account in the theory.

It has been proposed to make the gun itself a pendulum, by hanging it as such, and observing, by means of a ribbon, the time which it required to swing. The recoil of the gun was also set down by Dr. W. Holmes as an instrument for gunpowder, by firing the same gun with successive charges of powder of different qualities, and using no ball. By first measuring the recoil without ball and afterwards with it, it is presumed that the additional momentum given to the gun in one direction is also that given to the ball in the other. This there appears no reason to dispute; but the comparison between the gun-pendulum and the ballistic pendulum cannot be so satisfactorily made, because between the two comes another unknown quantity, namely, the effect of the wind on the ball between the instant of leaving the gun and striking the pendulum. But various circumstances, particularly described by Dr. Hutton in the tract allied to, render the principle assumed in the use of the gun-pendulum very doubtful.

BALLIUM. This term, according to Dufresne, antiently meant an outer bulwark; but was afterwards adopted for the area or court-yard contained within one. It appears clear from the word, and its original use, that it is a corrupted form of the Latin Vallium.

Grose (Antiq. of Engl. and Wales, vol. i, pref. p. 7) says, the ditch of a royal castle was sometimes called the Ditch of Bayle, or of the Ballium,—to distinguish it from the ditches which interlaced the outer works. Over it was either a standing or draw bridge, leading to the ballium. Within the ditch were the walls of the ballium, or outworks. In towns, the apellation of ballium was given to a work fenced with palisades, and sometimes masonry, covering the suburb; but in castles it was inclosed within the inner wall. When there was a double enclosure of walls, the areas next each wall were styled the outer and inner ballium. The manner in which these are mentioned by Camden, from the Chronicle of Dunstable, in the siege of Bedford Castle, A.D. 1284, sufficiently justifies this position. The castle was taken by four assaults. In the first was taken the barbacan; in the second, the outer ballium; in the third, the wall by the old tower was thrown down by the miners, with great danger they possessed themselves of the inner ballium through a chink; at the fourth assault the miners set fire to the tower, so that the smoke burst out, and the tower itself was cloven to that degree as to show visibly some broad chinks, whereupon the enemy surrendered.

The wall of the ballium in castles was commonly high, flanked with towers, and had a parapet, embattled, crenelated, or garnetted for the mounting of it. There were flights of steps at convenient distances; and the parapet often had the merlons pierced with long chinks, ending in round holes, called minies.

Within the ballium were the lodgings and barracks for the garrisons and attendants. It was stable, hospitium, chapel, and even sometimes a monastery. Large mounts were also thrown up in this place; these served, like modern cavaliers, to command the adjacent country; these last being generally raised within the body of the place ten or twelve feet higher than the rest of the works, and commonly within the bailey.

The entrance into the ballium was commonly through a strong machicolated and embattled gate, between two towers, secured by a barre or portcullis. Over this gate were rooms, originally intended for the porter of the castle; the towers served for the corps de garde. Compare the representation of the works of Dover Castle, in Grose's Antiq., vol. i, p. 10.

The church of St. Peter in the Bailey, at Oxford, derives its appellation from having formerly stood within the outer ballium of Oxford Castle. The Old Bailey, or outer space near Ludgate, in London, received its name from its relative position in regard of the ancient wall of the city.

Froissart, in his account of the battle of Poitiers, and by the Earl of Hainault, t. Edward III., says, the attack was so furious that the balliars were instantly won. Johnes, in his English Froissart (4to. ed. vol. i, p. 161), translates this word barrier.


BALLION, from the French balion, a little ball, is applied, in our language, only to the well-known machine which consists of a ball, generally, of linen or other stuff filled with hydrogen or other gas specifically lighter than the atmosphere, is employed to raise those who dare trust themselves to a voyage in the air.

We have preferred placing what we have to say on the subject of AURACUS with this word, because the art has not arrived at a degree of approach towards perfection which makes such a name of any use, or even meaning. Our air navigation, compared with that of the sea, is little more than on a level with the essay of the first rude man who discovered that a hollow wooden vessel might be made large enough to float a body heavier than water. The first step towards guiding the machine is yet to be made; and some little power of ascending and descending is all that has been gained.

Ballons as they appeared to spectators on the earth.

1. First Voyage, Nov. 1783.

If we consider that the first aerial voyage was made in the year 1783, and that minds of every variety of power have since been employed in the attempt to reduce air navigation to some degree of certainty, it will appear surprising that some success has not been obtained. All do not observe how little analogy there is between the motion of a ship and that of a balloon. The former sails in two elements, and the action of the water upon the rudder is a guide to the impelling power derived from the wind; the same cannot be applied to the balloon, which is sustained, as well as impelled, by the air; and the apparent cause of surprise ceases when we begin to see that the circumstances of the two kinds of motion present totally different problems.


The notion of imitating the flying of birds is very antient. We pass over the winged gods, the stories of Abaris, Dendsis, and the like, as fictious which, like many others, might have been purely imaginative, and not traditions of any previous reality. But Strabo (p. 396) mentions the Cap-
B alt

Protab (or Copernicus, as has been conjectured), a Seythian people, who (so the story has been very falsely interpreted) made Balbalt or soap-bubbles, and the vulgus at first suprised for the gratuity of the experiment. We may also mention the people of Arelîa, the curious of Hesperopolis, which Lucian professes to have seen and felt the air; and the Phoebus, in (Dr. Wallis's Palæstina, &c.) says that there certainly is a flying machine, in which he knows the name of the inventor, but which he has neither seen himself, nor any one whom he knows to have seen it. He adds, not the satisfactory of disquisition, which convinced all the sects. Bishop Wilkins, in his Mathematical Magic, a.d. 1656, proposes a carriage, with sails like those of a windmill, to be driven by the air; and the same thing, according to custom in the case of all inventions, has been attributed to the Chinese. We shall only mention Schott, Baptista Porta, Carolan, and Fabri, as having maintained the possibility of flying. The Jesuit Francis Lana (a.d. 1670) among many other projects, has given his name to two first of the real inventor. It is strong enough, when the exhausted, to resist the pressure of the external air, but at the same time so thin as to be light enough to be lifted by the wind. To the possibility of this he asserts that he sees no objection except that the Almighty would never allow an invention to succeed, by means of which civil government could so easily be disturbed. A reason of this sort was all-powerful in his age, which abounded in the knowledge of the minutest secrets of Providence: had the good father tried the experiment, he would have found that strength to resist the external air is incompatible with the necessary degree of thinness of the material, as well observed by Leibnitz. The work of Dr. Wallis's Palæstina, &c. was published in 1670, and a full account is also to be found in the Col. legium Carusiwm of Sturmus, a.d. 1701 (Tentamen X.), and in the work cited of M. Bourgeon. As a remark not to imply the realities of writers of the seventeenth and preceding centuries, we cite the following cases.

In the Ars Magna...he also...as the means of making...; and in speaking of the power of the magnet required, which he says must be very great, he does not state what the power of his own was, only that he had seen a magnet which...p. 379, edition of 1671.)

The second instance is as follows:—Sixtus of Ratisbon, Kircher, Porta, Schott, Gessendi, Lana, Marusi, Bishop Wilkins, all unite in stating that Regomontanus constructed an eagle which flew out from Nuremberg to meet the emperor at Venice, and on meeting him flew back again over his head to the town. If there any who can believe this, they will probably not reject it, accompanied by the additional fact, that Regomontanus died twenty-five years before Charles V. was born, which has been overlooked by some of the authorities above cited. After such an instance, we may pass over the case of Sinaitis, and numerous other flying machines, and be content with this single result only, that though the art of flying had been diligently studied, or at least discussed, for ages, it was not yet accomplished, and it does not appear that Regomontanus had not been tried, or even mentioned, by any of the projectors, some of whom were men of genius.

Nothing can set in a stronger light the antiquity of the experiment, or of the discovery of water, than this experiment. Lana, the every-day exercise of soap-bubbles, and the like, should have remained without results till then. If this be the case, then one has the imposition of a mass of solid substance to some considerable height in the atmosphere. But if we were to take the invention which is so common, of the right of an inventor on account of some experiments containing a principle common to both, it is very probable, that the art of flying, if once invented from time immemorial, in the ascent of soap-bubbles, or we might cite Candilo Buono, who made a scale of a balance ascendant, by raising with a red hot bell the air underneath it. It is quite possible that much higher, when we lose less than air, it immediately occurs to Doctor Black, that a light substance, filled with the ab omitted idea, would rise, itself. But he did not pursue the idea further; and Cavalli, who tried in practice the year before the death of Candilo Buono, and others, by hydrogen, anything heavier than a soap-bubble. We see that, natural as it might appear to use hydrogen for the purpose, the experiment succeeded only with a very different agent.

Stephen and Joseph de Montgolfier were paper manufacturers at Annonay, not far from Lyons. They had been studied natural philosophy and chemistry, and their business gave them facilities for procuring large masses of hot air. They discovered that we could avoid a repetition of those accidents; either to that of philosophers bringing paper makers, or to that of paper-makers being philosophers. We are quite in earnest, because it is stated that the balloon was not brought up to the above mentioned business, but was an experiment made by the Balloonists in order to Struck with the notion of confining something lighter than air in a receptacle, as the means of making the latter ascender, they tried this method at about the same period as M. Cavallo, by confining hydrogen in paper. They succeeded to some extent; but the paper was soon separated from the balloon, and the paper, that they abandoned the idea of anything being permanent elevation by means of it. The next thought which struck them, was that as it was supposed the elevation of the ball was only by the pressure of the lighter air, and it seemed to them that if they confine electra by hydrogen, no matter what is the property of it. Thus it was that the idea of the gas, to raise a surface, of great extent in proportion to the gravity, by means of electricity. After trying various methods, they applied fire underneath a balloon, and it is the rarest of all, as well as to increase the power (couple) of elastic fluid upon the vapor in the vessel, as to divide the vapors into smaller molecules, and diffuse the gas in which they are suspended. (Memoir of J. Montgolfier to the Académie des Sciences, November, 1774.)

In the present instance, the experiment succeeded; and a balloon of 33. lbs. (previously called for Frenchman) was raised with 3.300 lbs. of air. All this is posterior to 1772; and at that time the electric theory was stated as above. But in the report made to the Academy of Sciences (November, 1774,) by the commission appointed to examine Montgolfier's inventions, the inventors are spoken of as simply raising the air contained in the balloon: proves that by that time further consideration had led them to the correct view of the subject. Except a very slight note by Dr. Hutton (Math. Inst.,) preceded by it as said, we have not found in any English work the account of the best ideas of the Montgolfiers; we shall therefore make a better citation from their first memoir.

"An organised body in a state of ignition decennanes a gaseous..." (A new form of the, would-be, and undetermined gases. The state of combustion neutralizes the electric fluid with this body of vapours: the heat arising from combustion is concentrated, as by itself to delete the heaviest of the gases, and make it specifically heavy, but that heavy air, itself, falls to the earth, because the heat is dissipated, the vapours are concentrated, and have lost a part of their electricity.

The ideas of J. Montgolfier, as to the possible use of his invention, have that character of simplicity and soundness which distinguish the work of the philosophers above mentioned.

The ideas of J. Montgolfier, as to the possible use of his invention, have that character of simplicity and soundness which distinguish the work of the philosophers above mentioned. Large balloons might be employed for conveying a light body, for raising wrecked vessels, perhaps even for voyages, and certainly, in particular cases, the observations of different kinds; for reconnoitring the position of an army, or the course of vessels at twenty five or even thirty.
Leaves Galignani, &c. One of these ideas was put in practice at the battle of Fleurus, where the French made reconnoissances from a balloon, which was raised by means of a lamplight.

The first public experiment was made at Annonay, June 5, 1743. The presence of the 'Etats Particuliers' of Vivarais at that place, tempted the brothers to request their consent to another; and they found the experiment was made, without stating its nature. At the appointed time, nothing was seen in the public place of the town but immense folds of paper 110 feet in circumference, fixed to a frame, the whole weighing about 150 pounds, and 600 feet in length. This would have been the great astonishment of all, it was announced that this balloon would be filled with gas, and would rise to the clouds, which very few could believe. On the application of the machine, the machine burst and the balloon ascended in the form of a large globe, arriving at the same time to burst from the arms which held it. At length it rose with great rapidity, and in less than ten minutes was at 1000 feet of elevation. It then described a horizontal line of 7200 feet, and gradually sank. This balloon remained nothing but heated air, maintained in a state of reaction by a fire, the receptacle of which was attached underneath the globe of paper, which had an orifice opening downwards. Marks of this nature are called Montgolfier’s balloons, and they continued the history of the hydrogen balloons, which were made immediately afterwards.

The news of this phenomenon flew to Paris, where it immediately produced an excitement almost unheard of before. Great did Ildara, who had been dipped in the solution of Indian rubber, a subscription was opened, and a balloon was ready for the 23rd of August. The gas was obtained in the usual manner, by the action of dilute sulphuric acid on iron filings. But the difficulty of filling the machine was very considerable, as there was no one to help. It was at last discovered that a stop-cock had been left open; the machine was again filled, and on the 25th was allowed to rise 100 feet, to which height it was confined by ropes. On the 27th, it was transported to the Champs de Mars, where it was abandoned in the presence of an enormous crowd. It fell five leagues from Paris, after being about a quarter of an hour in the air.

J. Montgolfer had by this time arrived in Paris, where he exhibited one of his balloons on the 12th of September and the 5th of October, 1743.

The interest attached to the mere ascent of the balloon alone here ceases. We pass over therefore the various repetitions of the experiment which were made at Paris, preferring to mention only a few of the more remarkable occasions.

The first actual voyage were a sheep, a cow, and a duck, who were sent up, without leave asked, in Montgolfier’s experiment of the 19th. All came down safe with the exception of the second, whose wing was hurt; ‘but this,’ says M. de St. Pond, zealous for the honour of the balloon, ‘was done by a kick of the sheep, half an hour before the ascent, in presence of more than ten witnesses.’ He also assures his readers that they may safely discredit the rumour that the duck had broken its head; and be adds, ‘it is vexatious to see the public papers thus assert facts without proof, which in such cases ought always to be guaranteed by the signatures of those who send them.’

The ascension was judged prudent to trust human life to a free balloon till the experiment of holding the machine with ropes had been tried. In this manner M. Pilâtre de Rozier ascended 100 feet on the 15th of October, and 324 feet on the 19th. The first persons who offered to leave the earth entirely were the Marquis d’Arlanx and M. Pilâtre de Rozier; and they performed this feat at the Château de la Muette, near Passy, November 21, 1783, in a montgolfier. We prefer to give the original documents connected with this event, taken from the Marquis d’Arlanx and M. Pilâtre de Rozier; and they performed this feat at the Château de la Muette, near Passy, November 21, 1783, in a montgolfier. We prefer to give the original documents connected with this event, taken from the Marquis d’Arlanx and M. Pilâtre de Rozier;

* Proces Verbal. To-day, November 21, 1783, at the Château de la Muette, took place an experiment with the aerostatic machine of M. de Montgolfier. The sky was perfectly calm, and in about two minutes, a mortar gave notice that the machine was about to be filled. In eight minutes, notwithstanding the wind, it was ready to set off. The Marquis d’Arlanx and M. Pilâtre de Rozier being in the air. It was at first intended to retain the machine and its occupants; but the latter desired it would bear and see that all was right. But the wind prevented it from rising vertically, and directed it towards one of the garden walks: the ropes made several tents in it, and it was brought down again, and in two hours was set right. Having been filled a second time, it was set off at fifty-four minutes past one, carrying the same persons.

It rose in the most majestic manner, and when it was about 870 feet high, the intrepid voyagers took off their hats and made the aeronauts perform a military salute, which was an undistinguishable, but the machine, hovering above the horizon, and displaying the most beautiful figure, rose at a 670 feet high, and remained visible all the time. It crossed the Seine, now the barrier of the town, without touching the roofs of the houses of the Reuse de Seine, Faub. St. Germain, they preserved their presence of mind, increased the fire, and continued their course through the air until they had crossed Paris. They then descended quietly on the plains, and the news of the fact was communicated to the Comte de Crouelbarbe, without having felt the slightest inconvenience, and having in the car two thirds of their fuel. They could then, if they had wished, have gone three times as far as they did. They returned to Paris at 2 o’clock after 55 minutes. The machine was 70 feet high, 46 feet in diameter, it contained 6000 cubic feet, and carried a weight of from 1600 to 1700 pounds. Given at the château de La Muette, at five in the afternoon. Signed, Duce de Polignac, Duc de Glion, Cohen du Plessis, and Dr. D’Hnaun, Benjamin Franklin, Faujas de St. Fond, de Lisle, le Roy, of the Academy of Sciences.

Extracts from a letter from the Marquis d’Arlanx to M. de St. Fond, dated November 28, 1783. At the moment that he had obtained permission from M. Montgolfier to boldly alone, but that by the advice of the latter M. de Rozier was associated with him the evening before the ascent, he proceeds thus: ‘We set off at 54 minutes past one. The balloon was so placed that M. de Rozier was on the west and I on the east. The machine, says the public, rose with majesty: I think few of them saw that, at the moment when it passed the hedge, it made a half turn, and we changed our positions, which, thus altered, we retained to the end. It was astonishment of the spectators and the crowd occasioned by our departure among the spectators: I thought they might be astonished and frightened, and might stand in need of one encouragement (a beautiful trait in the human heart) from all the others, and nothing but firmness. I waved my arm with little success; I then drew out and shook my handkerchief, and immediately perceived a great movement in the garden. It seemed as if the spectators all formed one mass, which rushed, by an involuntary motion, towards the wall, which it seemed to consider as the only obstacle between us. At this moment M. de Rozier called out, “You are doing nothing, and we do not rise.” I begged his pardon, took some straw, moved the fire, and turned again quickly, but I could not find La Muette. In astonishment, I followed the river with my eye, and at last found where the One joined it. Here, then, was Conflans; and naming the principal bends of the river by the places nearest to them, I repeated Poissy, St. Germain, St. Denis, and then I am on the left side at Poissy. Looking down the river, my eye was attracted by the visitation of the clouds. M. Pilâtre said to me at this moment, “Here is the river, and we are descending.” Well, my friend,” said I, “more fire; and we set to work. But instead of following the river, as our course towards the Invaders seemed to indicate, we went along the Ile de Cygnes, entered the principal bed again, and went up the stream till we were above the barrier La Confluence. I said to my brave associate, “It is enough; I think so,” said he; “you are doing nothing.” “I am not so strong as you,” I answered; “and we are as well as we are.” I stirred the fire, and seized a bundle of straw, which being too much pressed, did not light well. I shook it over the flames, and it immediately put under the arm, and I said to my friend. “We are rising now, however.” “Yes, we are rising,” he answered, coming 2 3 2
from the interior, where he had been seeing all was right.
At this moment I heard a noise, high up in the balloon, which
made me fear it had burst. I looked up and saw nothing;
but as I had my eyes fixed on the machine, I felt a shock,
the first I had experienced. The shock was upwards, and I
cried out, "Is something wrong? Something is happening!"
"No, nothing," said the pilot, "we are getting on." "Let
us set to work," he replied. I heard a noise in the
machine, which I thought came from the breaking of a cord.
I looked down, and saw the smoke was full of holes,
several of them large. I said, "We must get down.
"Why?" "Look," said I. At the same time, I took my sponge
(pyrotechnical term) and easily extinguished the fire,
which was enlarging such of the holes as I could reach;
but on trying if the balloon was fast to the lower circle, I
found it easily came off. I repeated to my companion,
"We must descend." He looked round him and said,"We
are over Paris." Having looked to the safety of the cords,
I said, "We can cross Paris." We were now coming near
the roofs; we raised the fire and rose again with great ease.
I looked under me, and saw the Missions Etrangeres, and it
seemed as if we were going towards the towers of St.
Sulpice, which I could see. Raising ourselves, a current turned
us to the left, and we landed full of smoke on the Luxembourg.
We passed the Boulevard, and I called out, "Pied à terre." We
stopped the fire; but the brave Pilâtre, who did not lose his self-possession, thought we were coming near Paris,
and he warned the people of the Butte aux Cailles, between the mill of Des Merveilles and the
Moulin Vieux. The moment we touched land I held the
bar by the with my two hands; I felt the balloon press my
head lightly. I pushed it off, and leaped out. Turning to
wards the balloon, which I expected to find full, to my
great astonishment it was perfectly empty and flattened.

On firm land we leave our voyagers. The curious, who
would know how the populace, not so alive to the scientific
fame of these masts, and they have thus also in the Revolu-
tion, established a claim to M. de Rozier's great cost per
vace de fait, must consult the work of M. de St. Fond.
We need hardly observe, that all the measures mentioned
in the French voyages are French.
The second voyage was that of MM. Charles and Robert,
just at sunset, Dec. 1, 1783, from the Tulleries, in a
hydrogen balloon of 36 feet diameter. After coming down,
M. Charles re-ascended alone, and was soon 1500 toises
high, or nearly two miles. He saw the sun rise again, and
as the sun's light only is capable of indicating all of a
moment being plunged in shadow. A small balloon,
launched by Montgolfier just before the ascent, was found
to have run a totally different course; which first gave rise
to the different directions in the currents of
air, at different heights.

The third voyage, from Lyons, January 19, 1784, was
made in the largest montgolfier yet constructed (192 feet
diameter, 132 feet high) by seven persons, among whom
were J. Mongolfier and M. de Rozier. It had been intended
for six only, and these were found too many, but no per-
sonal could induce any one to abandon his place. The
instant after the ropes had been cut, a seventh person
jumped out, and the balloon caused it to descend with
great velocity, but no one was hurt.

February 22, 1784, a small balloon, launched by itself
from Sandwick, crossed the Channel, and was found nine
minutes thirty seconds above the earth in one hour.
March 2, 1784, M. Blanchard made his first ascent from
Paris in a hydrogen balloon. He added wings and a rudder,
but found they were useless. He first carried a parachute
or open umbrella, attached above the car, to break the fall
as well as possible, and the balloon was lifted to such
heights. April 25, 1784, M. M. de Morveau and Bertrand ascended
13,000 feet (English) at Dyson. Some effect was found, they
thought, to be produced by the use of ears.
May 20, 1784. Confidence in the balloon so far established
that they were considering the possibility of sending two
couples, one couple and four ladies, ascended, the balloon being confined by ropes. A lady, Madame Thibis, ascended with only one other person in a
free balloon, at Lyons, on the 4th of June.

December 26, 1784, M. Boulton (well known as the
partner of Watt) constructed a balloon, to which a match
and serpent were attached, that the gas might explode in the
air. The object was to see whether the revolving growl of thunder is caused by echo or by successive
explosions. The point remained unsettled owing to the abstruse
nature of the inquiry, but those who did hear it thought it grew
like thunder.

November 23, 1783, the first balloon launched in England,
from the Artillery Ground, London, by Count Zannier.
It was filled with hydrogen, and as it was set up, it was said, not
from London, near Petworth. September 13, 1784, the first voyage made in England,
by Vincentio Lunardi, accompanied by a cat, a dog, and a
pigeon. He started at the Artillery Ground, and landed at
Standon, not far from Blandford. January 7, 1785. M. Blanchard and Dr. Jeffress crossed
the Channel, it being the fifth voyage of the former in the
same balloon. They set out from Dover, and landed in the
forest of Guines, having been obliged to throw out all
their stock to prevent the balloon falling into the sea.
June 15, 1785. M. Pilâtre de Rozier and M. Remusat
ascended from Boulogne in a montgolfier of thirty-seven
feet in diameter, with the intention of crossing the Channel.
They had not been twenty minutes in the air when the
balloon took fire: both fell from a height of 1000 yards,
and were killed on the spot. July 22, General Money ascended at Norwich; the balloon dropped into the water, in which the
traveller remained six hours before he was rescued. In
December the same year, M. de la Grange and M. Auge,
rather was dashed against, Mount Tonnerre, 300 miles from
that place, after running very great risks.
September 21, 1862, M. Garnier descended successfully
from a balloon. We sing of him in the poem on Typhus Hospital, St. Pancras, London. The height from which
he descended was so great that he could scarcely be distin-
guished. At first, namely, before the parachute opened,
he fell with a great velocity; but as soon as it was ex-
closed, the descender became as light as air, and glided down
(Hutton's Dict., article 'Aérostation', in which much infor-
may be found.)

Three voyages have been undertaken, since the com-
mon agreement, by gentlemen of science and engineers.
In 1844, M. G. Lussac and Biot ascended at Paris
to a height of 12,000 feet, provided with apparatus.
The same year M. G. Lussac ascended alone to a height of
23,000 feet. This is not the proper place to state the
theoretical results of these experiments (see Air, Magazines,
and similar articles); neither voyage offers any remarkable
circumstances, except the well-known talents and experi-
mental successes of the two gentlemen named, who are
both alive to enjoy a reputation, of which their ascent form
the small part.

In 1864, Carlo Briosschi (died 1863), astronomer royal
at Naples, ascended with Signor Andreaani, who had pre-
viously been the first Italian aeronaut. Trying to rise higher
than M. G. Lussac, the ascension had de la Grange, so
so rapidly as to burst the balloon. Its remnants checked
the velocity of their descent; and this, with their falling
on an open space, saved their lives; but Briosschi
complained a complaint which brought him to his grave.
We say nothing of the various methods which have been
proposed for guiding the balloon, because none have suc-
ceded. It is now a toy, in which ascents are sometimes
made to amuse a crowd. That which was honourable
real, as long as the fear of falling was, and is still, is now
so care-hardness, and will continue to be so until some
sensible object is proposed, and some probable means suggested of
attaining it.

BALLOT; a word taken from the French, signifying a little ball, and used to designate a
mode of voting employed upon occasions where it is con-
idered desirable to preserve secrecy in regard to the opinions
de each voter. In many cases where any matter is desired
the result of the good or bad feeling of the people, it is known
how each person has voted, but there are other cases in
which there may be equally good reasons for allowing the
evoters to vote by ballot. Voting by ballot, therefore, cannot
be relied on as a good or a bad system of voting, without
some modification of the present system.

The modes of performing this kind of voting vary, in
some respects, according to the object to be attained: for
instance, in the case of an election to an office where the
choice can fall upon only one candidate, or upon a commit
number of candidates then are put in nomination, it is usual
to deliver lists which are folded so as to conceal the name or
names which they bear, and which, in that condition, are
placed in a glass, or urn, from which, after the votes are all
counted, they are taken out. In some districts in the United
States, the names of the candidates are printed upon slips
which are put into the urn bear only the words 'Yes' or
'No.' It is said that this mode of voting by ballot is more strictly adhered to, and ballots are
used in one of two ways. One of these ways is to choose
in which of two compartments into which the urn is divded,
the black or the white ball to be put. The other way is to
select the colour of the ball to be employed. In cases
where the last-mentioned method is resorted to, each voter is furnished with two balls, one white and the other
black; the black ball is used to express a negative,
whence comes the expression 'to blackball,' signifying the
rejection of a candidate. In determining this point of
rejection, no uniform rule is preserved by different bodies.
In some societies, or bodies, one ball is made sufficient to
negate the election; sometimes a larger number of adverse
votes is necessary for this purpose. Other bodies adopt a
regulation some definite proportion between the rejecting
and accepting votes, such as one in three, five, ten, &c.,
whereby to determine the admission of the candidate.
In France, a movement now new in the United States,
reaches relatively to the annual election of the officers called
vestrymen. In France, voting by ballot is used in the election of mem-
bers of the Chamber of Deputies, and the same mode of
voting is frequently resorted to by the deliberations of the
legislative chambers. In determining the acceptance or
rejection of the separate clauses of any law, the votes of
the members present are taken by the approving party rising
up. In England at large, twenty members should concur in demanding a ballot, that
course must then be resorted to; in every case the ultimate acceptance or rejection of the entire law, with all its clauses,
is determined by the ballot.

In the United States of America, almost all public elec-
tions are thus conducted. Some of the states (Connecticut,
New York, Pennsylvania, and Louisiana), in which a vivid mode of
election formerly prevailed, have within the last few years
adopted the use of the ballot; in Virginia they still use
calendars, but recently there are numerous turbos in the
year for the election of various office-bearers in the United
States of North America; and we are informed by Mr.
Stuart, that when he was at Ballston Spa, the capital of the
state of New York, in the state Assembly, in November,
1830, a ballot was held at the same time for electors of a
vice-president and vice-president of the
United States; for the governor and lieutenant-governor
of the state of New York; for a senator and representa-
tive in the congress of the United States; for three mem-
ers of Assembly of the state of New York; for sheriff,
for four coroners, and for the county clerk. The votes
are taken in each township of every county separately,
and the mode of doing this, on the occasion just men-
tioned, is thus described by Mr. Stuart: 'The ballot boxes
were placed on a long table, at which half a
dozens of the inspectors or canvassers of voters were seated.
The voters approached the table by single files. Not a word
was spoken. Each voter delivered his list when he got near
the table, to the man who called out his name. Any
person might object, but the objection was instantly decided
on, the officers having no difficulty, from their knowledge of
the township, of the persons residing in it, and to whose
household they belonged. Each ballot may be brought to
the table, and may be turned inside out. The votes for the
chief magistrate of the United States and his substitute,
for the governor and lieutenant governor of the
state, for a senator and representative to congress, for
three representatives to the state of New York, for four
coroners, a sheriff, and a clerk to the county, were taken,
and the business of the election finished with ease, and with
the most perfect order and decorum, in three days.

BALLSTON SPA, a town in the state of New
York, about 167 miles north of the city of New York,
and 23 miles north of Albany. This town was formerly in Albany county,
but is now in Saratoga county. It is much frequented on
account of some medicinal springs, the waters of which
are said to be efficacious in the alleviation of afflicting
afflictions, stone and gravel, and in cutaneous diseases.
The springs are in the bottom of a valley, which forms a kind
of basin, fifty acres in extent. The water is remarkably
clear. It contains iron, common salt, and lime. When fresh from the
springs it is said to have a peculiar taste, which when drunk has a slightly exhilarating effect: it is, at the same
time, cathartic, diuretic, and sudoriferous. The water, as it
flows from the springs, is remarkably cool, so that when the thermometer has stood at 85° in the open air, and the
water of a running brook near has indicated 75°, it stood
at 31° in one of the springs which was exposed; and in an-
other, from which the rays of the sun were excluded, at
46°.

The soil in the vicinity of the springs is sandy and unpro-
ductive; almost the only vegetation being pine-trees, scrub-
oks, and fern. Ferruginous and cuprous pyrites have been found in the surrounding hills. The Kayserscorna
water is said to have a peculiar odour; and the river
adds to the natural beauty of the spot. In 1830 the
permanent population of the town was 2113 inhabitants.
(Thompson's Alpco; Stuart's Three Years in North
America; and Companion to the North American Almanac.)

LILY S. LIPP, M.D. bricks of clay in the United
State of New York, are built up on the stratum of clay which
was the foundation for the city of Rome in Italy. The
first building of this kind in the United States is at
Ballston Spa. This town was
established from the eastern extremity of Java by a strait called the
Strait of Bally: it is situated between the 8th and 9th
degrees of S. latitude, its southern promontory being in 6° 40' S. lat.
and 111° 20' E. long. The island is 76 miles
long, and is separated from the mainland by a narrow
strait. The coast here is low and sandy. The inhabitants are
chiefly Chinese. The soil of Java is fertile, and
rich in various kinds of trees and plants. The climate is
tropical, and the summers are very hot. The
geological features of Bally are the same as those of
Java. The soil is a rich black earth, and the
rain-tides pass through it at the rate of six miles an hour. The coast
touches are difficult of approach, and has not a single harbour or even good an-
choring ground. The country is mountainous, and rises gradually from the north and east, then sinks to the inte-
rior for the distance of about ten miles, where a ridge of
mountains occupies the centre, and extends through the
island from east to west; at the eastern extremity is a vol-
canic mountain called the Peak of Bally.

The chief vegetables of Java are rice, maize, sweet
potatoes, and cotton. The chief spices of Java are Ceylon
sandalwood, pepper, cloves, and cardamom. The
larval food of the silk-worms is the leaf of the palm
plant. The Chinese are the principal traders in the
island, and the principal merchandise consists of
indigo, opium, betel-nuts, ivory, gold, and silver.

A considerable export trade in slaves was also carried on
formerly, nor has it yet entirely ceased, although it is much
diminished: as many as 1000 have been sent off the island
every year. These have consisted of prisoners made in
war, persons who have attempted to emigrate contrary to the
claws, insolvent debtors, and thieves. The prices for
which these slaves have usually been sold are, for males, from
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There is also an old church at the same place, which dates from 1860 to 1862. a year. There are several good houses in the town, and two comfortable ones. The parish church, a handsome edifice, which is on the summit of the hill on which the town stands, was erected in 1860. The market-house is situated in the centre of the town, and above it is the assembly-room, in which the petty sessions are held. Ballyshannon is a military station. There is an extensive distillery at the place; and several other branches of industry, which, although not forming such the town, are engaged in, and, on the whole, with fair success. There is a school in this town which is partly supported by Government and the town. It consists of a Roman Catholic chapel, and a Presbyterian meeting-house. About a mile from the town are the ruins of the ancient abbey of Askeaton, which stands on a very curious rock of secondary limestones. The antiquity of the abbey is not known. The town has a small church which is held on the 4th of April, and the Tuesday before the 11th of June, 11th September; and the Tuesday after the 11th November. The distance from Dublin is 185 miles N.W. in a straight line. By the road the distance is 187 miles. In 1851 the population was 2493; in 1862 2575; in 1871 2616; in 1881 2603.

BALMÉ, LA. This name, which is given to several caverns supposed to have served as sepulchres, is derived from a word, balma, used by the Latin writers of the middle ages to denote a sepulchral stone, a tomb, or an excavation in which a body is deposited. It is a diminutive of the name salma, which means a 'hill of dry rocks' or 'a hill to rock in mountains of countries.'

One of the caverns which bears this name is at Desplitude (now in the department of Isère); it is situated near the town of Vienne. It is in the arrondissement of La Tour-du-Pin, and near a village (on the left bank of the Rhone) about the junction of the Ain with that river, which has derived from it the name of Notre Dame de la Râche. It is in a very lime-pitted part of the Rhone, and is lighted, owing to the entrance being large, and has been formed into a chapel of the Virgin, once much resorted to by pilgrims. From the first apartment an immense passage leads to a larger apartment, from which two galleries proceed, ornamented with sketches of figures in rock, said to be of ancient history. One of these apartments or galleries leading to the right (called the Bata Gallery, La Grotte des 'Gnomes sauvages'), is a reservoir formed of the same substance as the stalactites. It is filled with the Purpe of the Rhone, and has a mass of stalacitic matter. In an apartment leading to the left is a stream which flows from an opening or passage, the length of which is not known. The stream disappears as soon as it issues from this opening, and passes by a number of recesses which the eye of no mortal can enter. It appears near the entrance, and takes its course to the Rhone, which is not far off. A clergyman of La Bâle, with some of his friends, traced this stream three miles up the narrow passage from which it issues forth into the croco, and ascertained that its rise is in a recessed and spacious opening, from which the water rushed out rapidly. A previous attempt to discover the source of this stream had been made without success by order of Prun, when in Desquipe. The rock into which the great cataract of La Bêze falls is terraced, worked over with steel, and of a grey colour. It measures in some of its strata the relics of shells and other marine productions. This is the same mountain. La Baza, in the department of Isère, about eight miles east by south of Genéva; and one near the town of Crussel, in the duchy of Savoy. Le latter is a deep, narrow, and winding cataract, supposed to have been formed by the passage of water through a fissure which has been enlarged. Another mountain in the Savoyard Alps bears the same name. It is in the canton of Vence, a town on the Bavarian bank of the Rhone, where that river separates Savoy from France.

The town-Balma is incorporated with those of several places in the neighbourhood of the Alps and the

BALLYSHANNON, a town in the county of Donegal, in Ireland, on the north side of the river Erne, over which there is a handsome stone bridge of fourteen arches, connecting Ballyshannon with that part of it called the Port. It is the principal town in the county, and had the right, before the Union, of returning a member to the Irish parliament. It was made a corporation in 1611, and possessed various peculiar privileges. It has been gradually rising in importance since the beginning of the present century. A great deal has been done in the architecture and other branches, have been done so more rapidly, but for the badness of its harbour. When the wind blows off Tralee Head, which it does a considerable part of the year, it is highly dangerous for vessels to attempt to enter the harbour. There are two islands near the town which are called the Summer and Winter Bara. A little below the bridge is a beautiful and most picturesque cascade. (See Bernard's Topographical Histories.) The fall is down a ridge of rocks, twelve feet high at low water. This is probably one of the principal salmon lakes in Ireland. The great quantity of water adds much to the effect of the fall. Below the cascade the river is navigable at the flow of the tides by vessels of forty or fifty tons burden. The navigation in the summer is so great, that the fishery brings in 10,000l. a year. The fishery is carried on by the persons who rent the fishery to the London and

LIVERPOOL markets. There is also an old church by the same name, which dates from 1860 to 1862. a year. There are several good houses in the town, and two comfortable ones. The parish church, a handsome edifice, which is on the summit of the hill on which the town stands, was erected in 1860. The market-house is situated in the centre of the town, and above it is the assembly-room, in which the petty sessions are held. Ballyshannon is a military station. There is an extensive distillery at the place; and several other branches of industry, which, although not forming such a large part of the town, are engaged in, and, on the whole, with fair success. There is a school in this town which is partly supported by Government and the town. It consists of a Roman Catholic chapel, and a Presbyterian meeting-house. About a mile from the town are the ruins of the ancient abbey of Askeaton, which stands on a very curious rock of secondary limestones. The antiquity of the abbey is not known. The town has a small church which is held on the 4th of April, and the Tuesday before the 11th of June, 11th September; and the Tuesday after the 11th November. The distance from Dublin is 185 miles N.W. in a straight line. By the road the distance is 187 miles. In 1851 the population was 2493; in 1862 2575; in 1871 2616; in 1881 2603.

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Balmavis entered into the conspiracy at the court of King Henry for the murder of Beaton; but of this there is no evidence, though unquestionably he took refuge in the service of St. Andrew's, like many others who were not engaged in the conspiracy; and in all likelihood he participated also in the reformer's sentences on the fall of the blude boucher. (Knox, Hist. 4.)

On the accession of Edward to the English throne in January 1547, the complicity of Balnavis and marriage were renewed; and on the 9th of March following, Balnavis and others bound themselves to endeavour to the utmost of their power to bring about the union, and also, for the more effectual securing of it, to keep the castle of St. Andrew's. Edward, on the other hand, gave them pecuniary assistance and a military force to defend the places—supplies susceptible no doubt of the construction which some writers have put upon them, but certainly received by Balnavis in the town of Peebles, in the aggrandisement, but for the public weal. On the 16th of the same month also, the partisans first above-mentioned bound themselves to Edward to endeavour to get Mary into England to be educated and brought up there until her marriage, and on the latter event taking place, to deliver up the castle of St. Andrew's to the English monarch.

In August, however, a fleet and land forces from the King of France appeared before St. Andrew's, in support of the French people, and lay siege to the castle. The castle was, after a vigorous defence, at length obliged to surrender. They were conveyed to France, and, in direct violation of the articles of capitulation, thrust into the prison of Rouen, as deserters to the French. Here, as we are expressly assured by Knox, who was one of the captives, solicitations, threats, and even violence, were employed to make them recant their Protestant opinions, but to no purpose. Knox narrates a humorous incident which took place on one of these occasions, which, as it illustrates the courageous spirit that animated the little band, may be here related, though we are not certain who was the hero of the piece. One day an image of the Virgin was brought to the prison, and one of the Scotch prisoners that he might kiss it. He desired the bearer to be off, for that such idols were accursed, and that he would not touch it. "But you shall!" said the fellow, thrusting the image into his arms. The Scotsman took hold of the Virgin, and then dashed her into the river, saying, "Let our lady now save herself; she is light enough; let her learn to swim." While in prison Balnavis employed himself in writing a treatise on justification, and the works and conversation of a justified man. Knox was so pleased with the performance that he divided it into chapters, added some marginal notes and an epitome of its contents, and to the whole prefixed a recommendatory preface. The manuscript disappeared, however, for some time; but after Knox's death, it was discovered among some papers of his, the last that he wrote, on the burn of Ormiston, and printed, anno 1584, under the title of Confession of Faith, containing how the troubled man should seek refuge at his God: compiled by M. Henry Balnaves, of Halhill, one of the Lords of the Congregation of Scotland, being a prisoner within the walls of the old palace of Roan (Rouen) in the year 1548. T. Vautrollier, Edin., 1584.

In 1554 Arran resigned the regency, to which the Queen Dowager, Mary of Guise, was then raised; and she, to soothe her Protestant supporters, recalled the laird of Grange and the other conspirators from their banishment; and the forfeiture which had been pronounced against Balnavis was also rescinded. In the proceedings of the people of Scotland which soon afterwards followed, Balnavis took a leading part for the reformers; and in September, 1559, he was secretly despatched by the Lords of the Congregation to Sir Ralph Sadler, the English plenipotentiary at Berwick, from whom he obtained an interview for the Protestant party. It seems to have been contemplated to send him to England again for assistance; but Randolph, the English resident, discouraged the mission, and he was not appointed. It appears, however, that Crook of Balnavis was seized at the same time, and suspended in all the dignity of 4000 crowns; but the Earl of Bothwell, at the queen's instigation, lay in wait for his return, attacked him, dispersed his followers, and carried off the money. Destitute of funds, the ruin of the Protestant party was considerable, until the French sent for some time spiritless and unsuccessful. But the tide of prosperity again flowed in
their favour, and in the parliament of 1560 the reformed religion was established by law.

On the 11th February, 1563, Balnava was re-appointed a Lord of Session, in the room of Sir John Campbell, of L locks, deceased, on the 29th December, same year, he was named by the General Assembly of the Church of Scotland one of the commissioners appointed by that venerable body to revise the Book of Discipline. He is said to have been one of the assessors to the Lord Justice General on the trial of the Earl of Bothwell for the murder of Darnley; but this is extremely doubtful. The next year he attended the Regent Murray as one of the commissioners from Scotland to York in relation to the charges against Mary for the same murder; and he was one of the two afterwards sent to London on the part of the Regent in the same matter.

According to MacKenzie (Lives, vol. iii. p. 147), Balnava died in 1570; whereas in the Primdoun MS. we find it stated that on the 20th October, 1570, Macalzean, of Clifton Hall, was appointed a Lord of Session in the room of Henry Balnava, deceased.

Besides the treatise above mentioned, Balnava wrote a short poetical piece, entitled Advice to a Headstrong Youth, which the Scottish poet, Allan Ramsay, has transcribed into his Evergreen.


BALSAMFLAX, a natural order of plants first indicated by Theodoric Næs v. Ekenbeck, defined by Dr. Blume in his Flora Japon., and adopted by Dr. Lindley in his Asia. It is intermediate between the Wilodes and Plane tribe, from the former of which it differs in having a two-celled fruit and downless seed; and from the latter in having numerous seeds. It consists of lofty trees, flowering with balsamic juice, bearing the flowers in small scaly heads, without either calyx or corolla, and having the stamens in one kind of head and the pistils in another. The different species yield the resinous fragrant substance called liquid storax, which is so much prized by the inhabitants of the East. The whole order consists of but a single genus, called Liquidambar (which see).

BALSA/MINA, one of the only two genera of which the natural order Balsaminæ consists. It differs from Impatiens in having all its anthers two-celled, its stigmas distinct, and the valves of its fruit curving inwards when burst open. There are numerous species, several of which have very handsome flowers: they are chiefly found in the damper parts of the East Indies; but the only one that is much known in Europe is the common goan balsam, a small subshrubby plant, which, in its double state, has been an object of cultivation since the earliest records of modern horticulture. This plant, which is supposed to be found wild in the mountainous parts of Silhet, in the form of what botanists call Balsaminæ tripeta, is one of those species which not only has a tendency to vary with double flowers, but has also the power of continuing to produce them when renewed from seeds. On this account it particularly deserves the attention of the cultivator, especially as it may be brought by art to a state of beauty equalled by few plants. All that is necessary in order to secure fine balsams is, first, to save the seed with great care from the finest and most double flowers only, throwing away all whole-coloured and single blossoms; and, secondly, to divide the plants as soon as regard to their natural habits of the species. A native of the hot, damp, shady woods of Silhet, it is incapable of bearing much drought or bright sunshine. It should, therefore, be raised in a hot-bed, treated with great care as a tender annual, grown in rich soil, sheltered from excessive sunlight, and kept constantly in a damp atmosphere, but freely and fully ventilated. It should not, however, be stimulated into extremely rapid growth until the plants have become stout but firm; then it is necessary to make the seed of small plants. At that time the plants should have all the heat and moisture they can bear, and the most brilliant flowers the plant is capable of producing will be the result: in the latter stage of growth the plant is still to be taken to expose the plants fully to air.

BALSAMINE, a small, natural order of plants belonging to the Gynoecous alliance of Decotyledons, and principally distinguished from Garamanoæ by their many-seeded fruit and unsymmetrical flowers. They are common herbs, most abundant in hot countries, with simple, opposite, or alternate leaves, and showy flowers, with a square to their calyx. They have no sensible properties of importance, but are the ornaments of the damp or swampy places in which they grow wild. The order is remarkable for the elastic force with which the valves of its fruit contract and reject the seeds.

[Impatiens Nłt tangens.] a a calyx magnified, with one of the petals, b the base of an another, c the base of the same, d an arrow, e a spore in the act of bursting and scattering its seeds; f a seed, g thesame cut transversely.

BALSAMODENDRON, a genus of Oriental trees belonging to the natural order Annyridæ, and remarkable for their powerful balsamic juice. They have small green axillary discuseous flowers, a minute four-toothed persistent calyx, four narrow reflexed petals, eight stamens inserted below an annular disk, from which eight little exserted corollas alternate with the stamens, and a small oval drupes with four sutures, and either one or two cells, in each of which is lodged a single seed. The leaves are pinnate, with one or two pairs of leaflets, and an odd one. Five species are mentioned by botanists, the best account of which is by Professor Fee, from whom we gather the following particulars.

Balsamodendron opobalsamum, the Balseman of Brusa, has a trunk from six to eight feet high, furnished with a number of slender branches ending in a sharp spines. The leaves consist of five to seven sepal, ovate, entire, and shining leaflets, within which are placed the small globular fruits, which are succeeded by small oval plums. From this is distinguished the

Balsamodendron Gilianæ, supposed to be the Flavus of Theophrastus, which is described as a many-seeded tree, with the leaflets growing in threes, and the flowers singly. But it is probable that, as these balsam trees are found in the same places, and produce the same substance, they are, in fact, nothing but varieties of the same species. They both produce three different substances: 1. Stibium; 2. Stibium of Morocco, or of Gilianæ, of Opobalsamum; 3. Carpuspilum; and 3. Carpuspilum; the first obtained from the trunk of the balsam trees by simple incisions; the second by burning the branches and.Summing off the resin on a ramus to the surface of the water; and the third, by simple pressure of the fruit. They are no longer met with, even in gardens, about Gilianæ in Palestine.
Myrrh, a gum-resin, celebrated from all antiquity for its aromatic and fragrant properties, is yielded by two other species of this genus.

Balsamodendron Myrrha is a small scrubby tree found in Arabia Felix, near Gison, scattered among species of acacia, euphorbia, and moringa. Both its wood and bark have a strong and remarkable odour. The branches are stiff, short, and spiny; the leaves composed of three obovate, unequal leaflets, with distinct crenatures, and the fruit a narrow, oval, furrowed plum, surrounded at the base by the persistent calyx. Its flowers are unknown to botanists.

Balsamodendron Kochii has fewer spines, and downy and more distinctly serrated leaves. Its wood, which is red and resinous, is a common article of sale in Egypt.

Whatever may be the product of the last species, which Forskål states to produce the myrrh of commerce, it is now certain that this substance is yielded by Balsamodendron Myrrha, which Ehrenberg found on the frontiers of Nubia and Arabia, bearing a substance identical with the myrrh of the shops. It is, therefore, no longer to be doubted that the suggestion of Brune, that it is the produce of a kind of mimos, a most improbable circumstance, by the way, originated in some incorrect observation.

Balsamodendron Sylacynum is mentioned as a fifth species, producing oriental elemi, which is very different from the American kind; but of this too little is known to enable us to do more than advert to its existence.

Myrrh, a natural gum-resin, the source of which was long doubtful, was observed by Ehrenberg to exude from the bark of the above-mentioned species of balm, much in the same way as gum tragacanth exudes from the astragalius versus. It is at first soft, oily, and of a yellowish-white colour, then acquires the consistence of butter, and by exposure to the air becomes harder, and changes to a reddish blue. As met with in commerce, it is of two kinds, that which is called myrrh in tears, and that called myrrh in sorts. The former, called also myrrha electa, occurs in different-shaped pieces, often of a roundish or angular form, and variable size, but generally small, of a reddish yellow or brownish hue, exterminally rough, and often covered with a fine powder. In other pieces, the surface has a shining aspect, which is said to be owing to the action of alcohol. The fracture is vitreous or conchoidal. It is in general only partially transparent at the edges; when perfectly transparent, it is of suspicious quality. The smell is peculiar and rather disagreeable, the taste is bitter and very unpalatable.

Myrrh in sorts is the term applied to various inferior and adulterated kinds. They are generally in much larger pieces than that described above, from which they differ in physical appearance as well as chemical qualities.

The acoholic tincture of the best myrrh, mixed with equal parts of nitric acid, becomes red or violet. The tincture of the false myrrh (of Bonastre) so treated becomes turbid and yellow, but not red. The taste of this false myrrh is very bitter, but the smell is that of turpentine. Another false kind is in its inner portion almost without bitterness, but the outer portion is often moistened or entirely covered over with some of the genuine. Dr. von Martus mentions a white myrrh, which has a very bitter taste like colocoly, and an external appearance like ammonium; it is probably ammoniacal, treated with tincture of colocoly. Another false myrrh may be distinguished by its transparency and less bitter taste.

Balsam is often substituted for myrrh, from which it may be distinguished by being generally in larger angular pieces, of a darker brown hue, scarcely transparent at the edges; the odour fainter and more agreeable than myrrh. It softens slightly with the heat of the hand, while myrrh becomes drier. It contains more bassorin, and possesses some degree of acidity. It melts almost entirely in the mouth, while genuine myrrh, when chewed, adheres to the teeth, and imparts to the saliva a milky colour.

East Indian myrrh is in large pieces, altogether opaque, frequently covered with a brownish-white powder. The source of this is unknown, but it is conjectured by Louraeus that a tree called laureus myrrha, a native of Cochinn China, yields it. The so-called myrrh of Abyssinia, which is gum opocalpasum, is yielded by the acacia gummefera (Wild.), called also Inga Sassa, and is probably a variety of the gum of Bassors or Bagdad.

A portion of myrrh brought from Arabia by Ehrenberg, analysed by Brandes, yielded

<table>
<thead>
<tr>
<th>Substance</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resin, soluble in ether</td>
<td>22</td>
</tr>
<tr>
<td>Resin, insoluble in ether</td>
<td>5</td>
</tr>
<tr>
<td>Gum</td>
<td>54</td>
</tr>
<tr>
<td>Bassorin</td>
<td>9</td>
</tr>
<tr>
<td>Volatile oil (myrrh oil), which is heavier than water</td>
<td>230</td>
</tr>
</tbody>
</table>

Traces of salts, malicines, benzoates, and sulphates.

Its specific gravity is 1.360. Water dissolves about 66 parts, one-third of which is deposited upon standing. Alcohol dissolves the remaining 34 parts; but on the addition of water, it becomes opaque and milky, but without any precipitation. Acetic acid and milk of ammonia did not dissolved the digestive process is much facilitated, especially where there is weakness and torpidity of the intestinal canal, sometimes accompanied by too copious mucous secretion, (constituting what is termed diarrhoea mucosa).

Myrrh, though containing a volatile oil, seems to act more from its bitter qualities, which approach to the character of a stimulant tonic. It increases the energy of the whole frame, giving solidity to the solids, and greater constancy to the fluids. The secretions of the mucous membranes particularly are improved by it, and diminished in quantity when excessive. Its introduction into the stomach is followed by a sense of warmth, which diffuses itself over the whole system. The abdomen is relieved. The appetite of the digestive process is much facilitated, especially where there is weakness and torpidity of the intestinal canal, sometimes accompanied by too copious mucous secretion, (constituting what is termed diarrhoea mucosa).

From its cleansing power in the case of external ulcers, it has been recommended in consumption (phthisis pulmonalis); but in the early stages, or even the later, if there be much fever or cough, it is not admissible; and when allowable, it is only useful by imparting strength to expectorate, having no power to cure the disease.

In scrofulous cases usually occurring in feeble persons, it is of great use, along with tonic medicines and preparations of iron. It is best given in substance in the greater number of cases in which it can be employed; but as a means of cleansing ulcers, as well as a wash to parts in danger of ulcerating from pressure (as in patients long confined to bed, from feverish, tormented limbs, or other causes), the tincture is preferable.

Myrrh is an ingredient in a great many tooth-powders.

The produce of the Balsamodendron Giteadesne, though called a balsam, and denominated balsam of Moea, balsam...
of Gilead, is not entitled, chemically, to rank as such, being an oleoresin. It is of two kinds, that obtained by spontaneous exudation, and that which is obtained by boiling the branches. The former is so highly prized in the East, and so expensive, that it is never brought to Europe; that which is obtained by boiling is of different qualities and very much more in demand, as the boiling is continued for a short or long time. When for a short time only, the substance which floats on the surface is highly esteemed, and almost all of this quality is consumed in Asiatic Turkey and Egypt. This is a very light yellow or almost transparent substance, having a characteristic and agreeable aromatic odour, and being heated to a greenish, greyish-white, or brown, 93°. When dropped upon water it spreads out into a thin film, which may be skimmed off the surface with a spoon. When exposed to the air for some days, it loses this property, as well as its fine smell. It has been described by Strabo (b v xi. p. 743) as "... The balsam is a shrub of a brambly appearance or kind, like the eucalyptus and terebinthus, and possesses aromatic properties. They cut the bark, and catch the juice that exudes in vessels: the juice resembles only milk. When put into the mouth, the perfume, or that which is excited and quicken the heart's action as well as the external or capillary vessels, which hast excite when brought into direct contact with them, as in the case of wounds or ulcers. It possesses none power over the nervous system, but less over the nerves of animal than of organic life. It is in diseases referable to morbid states of the nerves of organic life that balsamic medicines are most useful, especially when they are in a state of weakness, torpor, and imperfect nutrition. They excite the appetite, cause the stomach to be excited, calming it, and approaching, in this respect, to the character of antispasmodics. Under this head be seen the most powerful, and most frequently employed, generally in the form called purgative elixirs. From what has been already said, it is clear that they are unsuited to the beginning or early stages of the disease in which they are most commonly employed by unskilled persons. As long as an acute inflammatory action exists, that is what is most hurtful; but after this has subsided they are frequently very beneficial in quieting the cough and facilitating the expectoration, in the later stages of hooping-cough, and in the humd cough of old or weak persons, where in one of the morbid states popularly called asthma. Balsamic medicines are, however, absolutely useless when the asthmatic symptoms are connected with any organic change of the heart or lungs. They must be advantageously employed in the later stages of inflammation and supplicative catarrh. The early use of purgative in common colds is frequently recommended.

The external employment of balsams is almost completely banished from modern surgery. The evil of these employment was obvious to the eyes. Prior's balsam around the boil, balsam for cuts, &c., as certain combinations or solutions of balsam of Tolu, Sitrus, and the oil of turpentine, and the spirit were called, bad, when applied to recent wounds, the manifest bad effect of stimulating the edges, and causing a mechanical impediment to their union by the best intentions, as the direct result of exposed surfaces covered by surges. In this way they were healed, both by superficial and granulation, which is a much more balsamic process.

To some indolent wounds and sores, especially in parts not exposed of much vascularity, their application is a most beneficial one. Of these uses the most useful and most equally injured by them: their vaunted power of curing consumption is only maintained by ignorant and unscrupulous persons, who send their poisonous compounds to the weak and credulous among their suffering fellow creatures.

[For balsam of Canada, see Pinus Balsamifera; for balsam of Copalina, see Copalina; and for balsam of Peru and Tolu, see Myropermum.]
Farms the southern part of the Danish peninsula called Schleswig. It is connected with the ocean by means of a large gulf called Kattegat, which separates Denmark from Norway and Sweden, and by three straits, the Sound, the Great Belt, and the Little Belt, which may be considered as gulf harbors of the Baltic Sea.

The main body of the Baltic Sea does not lie in one direction. Between Denmark and Prussia it extends from west to east, but between Cape Torharmde and Sweden and Cape Brusterort in Prussia it bends to the north, and then to the east with nearly due north and south. The 56th parallel divides this main body into two nearly equal parts, but the northern adds considerably to its extent by branching off into three large gulf, those of Bothnian, Finand, and Livonia.

The Fjærrør strait forms a formidable at the entrance of the Steetener Halb, about the most southern point of the Baltic, to Torneo, is little less than 900 miles long. The breadth of this sea is not great; and the most western part is the narrowest. Between the Danish islands and the coast of Holstein, and Mecklenburg, it is nowhere more than thirty miles in width, and frequently less. Further to the east it is wider. The island of Rügen is upwards of fifty miles from the southern shores of Sweden. Gradually increasing towards the south, the sea is broadest at its center, to Torharmde and Brusterort, where it may measure about 150 miles. The main body narrows very little farther to the north, its mean width being always between 120 and 130 miles. But the far extended limbs of this part are much narrower. In the southern German stations, to the south of Cape Flandrecht, for about 400 miles, is only from 30 to 100 miles wide; and the Gulf of Finland, which runs about 280 miles to the east, is not more than from forty to seventy miles in breadth. The smallest of the three gulf, that of Livonia or Gulf of Bothnia, is from forty to sixty miles wide; but it extends only about a hundred miles to the south-east between Livonia and Courland.

The surface of the whole sea, according to the calculations of German geographers, is upwards of 150,000 square miles. The climate of the Baltic Sea is of a cold tempering climate. Cape Dornesten, at the entrance of the Gulf of Livonia, is low and sandy, and lined by numerous sand-banks. The beach is covered with small pebbles of granite and porphyry, which, in some places, as at Dobberan in Mecklenburg, are of consider able extent. Many of the island and the coasts of Scania, are of moderate height, but not rocky.

The basin of the Baltic Sea is of considerable extent. On the south it receives, by the Oder and Vistula, the drainage of countries which lie 300 miles and upwards from sea. The basin extends far into the countries which are from 250 to 300 miles from the sea. To the north of the Gulf of Finland the basin of the Baltic becomes more contracted, though round the Gulf of Bothnia and southwards from the island of Stockholm, it generally extends 150 miles from the coast. It is only at its western extremity, where it approaches the North Sea, that the waters falling into it have a short course, frequently only a few miles. Comparing the extent of country drained by the rivers which empty themselves into the Baltic, with that drained by the rivers which fall in other parts of the ocean, it appears that the basin of the Baltic is one of the most extensive in Europe, and is exceeded only by that of the Black Sea, and even by the latter not to any large amount. The drainage of more than one-third of the surface of Europe falls to the Baltic.

The basin of close seas is generally bounded by mountains or high table-lands, as the Mediterranean and the Gulf of Persia and of Arabia; and, in such cases, the countries are subject to the weather not subject to have their climate materially influenced by that of their neighbors. In the case of the Baltic, the situation of the sea, and sinks with a very gradual and often imperceptible descent towards the sea. By this singular position some of the most distinguishing peculiarities of the sea, as well as of the country about it, may be explained.
To these two circumstances—the small degree of salinity and the little depth of its waters—it is to be attributed that the shores of the Baltic nearly every year are covered with ice, which in general, from the end of December to the beginning of April, shuts up the harbours, straits, and bays, and prevents the navigation of the coast. In the low and flat lands of the Baltic the freezing begins sooner and ends later. In the first month of the year great pieces of ice are sometimes met with between Stockholm and the islands of Dago and Ossel. In the month of February and throughout March, that extensive portion of the Baltic are frozen over. According to tradition, a communication over the ice was established in 1333 between the town of Luberc and the Danish islands and the coast of Prussia, and public-houses were erected along the road. In the year X. of St. John, a Russian army crossed it over both Belts to the conquest of Zealand; and in our days, in 1809, a Russian corps passed from Finland over the ice, at the narrowest part of the Gulf of Bothnia, called the Quarken.

The waves of the Baltic do not rise to such a height as in the North Sea, or in any other part of the Atlantic, but they break much more abruptly. The first circumstance is probably caused by the narrowness of the sea, and the second by its incomparable depth. The current of the Baltic may be compared to that of a wide river or a large estuary. It commences at the remotest extremities, and its course is towards the outlets of the sea. The greatest volume of fresh water is discharged by the outlet of the northern salt of the Gulf of Bothnia, whose united waters form a current which is very rapid in the strait of the Quarken. It becomes less rapid where the gulf enlarges, and divides afterwards at the Agiit or Kielbrugs, a broad communication in shallow water, which has a double channel, and the stream is felt over the whole surface in the central parts of the sea, until it makes its exit through the three straits, being most sensible in the Little Belt. What is commonly observed in wide estuaries happens here also. When a strong wind blows like a gale directly into the entrance for some time, it changes the current, and causes an influx of water from the open sea. Such a temporary current is said to exist sometimes even at the entrance of the Gulf of Finland, and is known. The tides, which rise to a greater height in the North Sea than in most in other parts of the ocean, especially along the shores of Germany and Jutland, decrease rapidly in the Kattegat, so that in some places they produce only weak and irregular oscillations of the water. Their feeble efforts may still be traced in the three straits, but farther southward they disappear entirely. At Copenhagen the average tide is about one foot.

The Swedish naturalists have observed a rise of the water in the Baltic, which seems to proceed from another cause. The surface sometimes rises to three feet and upwards above the ordinary level, and maintains itself at that height sometimes only for a few days, but occasionally for several weeks along the southern coast, which, however, is but most frequent in autumn. This phenomenon has not yet been explained in a satisfactory manner.

The Baltic does not abound in fish either as to species or numbers. The herring once visited it in shoals, and this fishery was considerable in the 14th and 15th centuries along the coasts of Scania or southern Sweden; but since that time only individuals have been caught. It would even seem that it has abandoned the Kattegat. But on the other hand, the extraordinary richness of the Gulf of Bothnia, a fish is caught in great numbers, which, however, does not distinguish itself from the herring by its being smaller. It is called streamling, and is the only fish of the Baltic which is not consumed in its fresh state, but dried, salted, and otherwise prepared for a distant market. The greatest quantity is taken between the Quarken and the Aland Islands, and many families on this coast gain their subsistence by this fishery. The next important fishery is that in the straits between the Danish Islands. Many species, which are not found farther north, are caught by the fishermen of the coastal land, enter these straits from the Kattegat, and afford an abundant supply of food to the inhabitants of some of the smaller islands. On the east coast of the Baltic most of the fisheries consist by far the greatest, if we except the island of Gotland and the Aland Islands, of cod, and a considerable number of seals are killed at the breaking up of the ice which in winter attaches itself to these islands. The most abundant species of fish, next to those already named, are salmon, sturgeon, turbot, and flounder, and the sword-fish. Whales are sometimes, but rarely, cast upon the shore in a dead state. The Delphinus Phocaena is frequently caught along the shores of Scania.

Among the productions of the Baltic are most notice of amber. Though met with in sometimes in a few other countries, as in Sicily, it is only on the southern coast of the sea, and especially in Prussia, between Königsberg and Memel, that it is procured in considerable quantities. Part of the amber is dug up in the cliffs, on the beach, and part is thrown upon it by the waves after a prevalence of north-westerly and westerly winds. [See AMBER.]

The countries surrounding the Baltic supply timber, goats of different kinds, hides, tallow, &c., in the greatest abundance of and the first quality. If we except the seas contiguous to the British islands, and which encloses the maritime tracts of the Chinese empire, no portion of the ocean is as much frequented by shipping as the Baltic. To support this assertion we shall only state, that in 1829, 13,486 vessels passed through the Sound, and several hundred more through the canal of Kiel; and all this in spite of the difficulties and disadvantages to which the navigation of this sea is subject. These difficulties arise partly from the narrowness of the sea, and partly from its numerous sandbanks along the southern and eastern shores, where shipwrecks are more frequent than in any other part. It is thought that many vessels are annually lost, while the commerce between Great Britain and America is carried on with the loss of one per cent. Besides this, the harbours of the Baltic are shut up for three or four months by the sea, and thus the navigation of large vessels is much freer than by ships on the sea. Another disadvantage is the shallowness of the harbours on the southern coast, and the complete want of tides. No vessel drawing twenty feet of water can enter any harbour as far as the Gulf of Finland, and most of them admit only such sails as will draw five or six feet. The vessels which visit these ports average only between 300 and 300 tons. This circumstance places these countries under great disadvantages in carrying on a commerce with remote parts. In long voyages the profit arising from the employment of large vessels is much greater than when small ships are used; and countries which are limited in the employment of the latter cannot enter into competition with those which use large vessels. The navigation of the countries about the Baltic extends only to their own sea and the neighbouring ports of the Atlantic. This shows the great advantages Britain derives from its geographical situation, which makes it the natural depôt of the commodities exported from the Baltic, which are sent to the ports of British America, and from the Baltic vessels to the remote countries where they are consumed. The harbours to the north of the Gulf of Finland are much deeper, and admit vessels of 600 tons and upwards; but as the countries are not so productive, their trade is in consequence comparatively insignificant.

The Swedes who inhabit the coasts long since observed that some places formerly covered by the sea had become dry land in the course of time. This induced some Swedish naturalists to suppose that the surface of the Baltic was lowering. But as that opinion could not be adopted without supposing that the surface of the whole ocean underwent a similar change, others thought that the whole of the Scandinavian peninsula was slowly raising. Colenso, in 1775, published some observations on this subject, and of a more recent period, one who has most clearly stated the opinion that this rise amounted to about forty-five inches in a century; but other investigations were not favourable to his opinion. He, as well as Lamouret, pointed out the facts which might be decided on safer evidence; and it is a different question whether the changes which were passed over in boats by the French navigators when they measured a degree, are now changed into movement. As, however, this portion of the Gulf remains very numerous, large and rapid rivers, which bring down great quantities of sand, it is probable that these changes have been produced by the agency of the rivers.

The Baltic is ruled by the Germans, Danes, and Swedes
the Eastern Sea. It is uncertain whence the name of Baltic is derived. It was first used by Adam of Bremen, a monk of the twelfth century, in his description of the Baltic and the countries about it. Several etymologies have been proposed: some derive it from the Danish Bæst, which signifies east; but that is more probable that it is derived from the language of the ancient Prussians, and extinct and entirely unknown. In the Lithuanian language, which probably had some affinity with that of the ancient Prussians, balts signifies wise; and it would seem that so a name was properly given to the seamen of that people, who were generally called by the Greeks White Sea. (Cassius, Tableaux de la Mer Baltique; Travels of Von Buch, Thompson, Schubert.)

BALTIMORE, a considerable city in the county of the same name in the state of Maryland, in the United States of America, and in the situation of the navigable Patapsco river Patapsco, and between it and Gunpowder River, both of which streams empty themselves into Chesapeake Bay on the west side near its head. The county is separated from Anne Arundel county on the south and south-west by the Patapsco, and from Harford county on the east and north-east by the Gunpowder. On the west and north-west it joins Frederick county, has Pennsylvania on the north, and is bounded by Chesapeake Bay on the south-east.

The city, incorporated by the state of Maryland for erecting a town on the north side of the Patapsco, and in the following year it was laid out and called Baltimore, from the name of the founder of the colony of Maryland. For many years it did not flourish, and its inhabitants were employed in the management of the fisheries. It tells us, on the authority of Mr. Carroll, one of the signers of the declaration of independence, whom the captain saw in his visit to America, in 1828, that Baltimore, which then contained 7900 houses, was a village of only seven houses within Mr. Carroll's memory. The rapid extension of the place is no doubt to be ascribed to its position, which is so favourable for foreign trade, and which has been sufficient to overbalance the disadvantage of unhealthiness, to which the city has been exposed, though in a less degree now than formerly.

The town of Baltimore is built round a basin which forms one of the sepulchres harbours in the United States, and is capable of containing 2000 sail of merchant-ships. The entrance to the harbour is little more than a pistol-shot in width, is defended by a fort. At common tides the water rises five or six feet, and the harbour is at all times deep enough, through the greater part of its extent, to receive ships of large burthen, but only small vessels can go quite up to the town. The steamboats, which only depart from this harbour with the wind in a particular quarter, it is usual for large ships to load and unload in a harbour near the mouth of the basin, which is formed by a neck of land called Fort Point, consisting of a point of being near to the shipping, many stores and houses have been built on this point, and these are now so numerous as to be joined to, and to form a part of the city of Baltimore.

The exports of Baltimore consist principally of tobacco, wheat, wheat-flour, maize, hemp and flax; and its imports, of colonial produce and the principal European products and manufactures. Much of the export trade that was carried on at this port has of late been transferred to New York, owing to the great improvements in water communication with the interior effected by the latter city. In consequence an attempt has been made to revive the commercial activity of Baltimore by the construction of railroads to facilitate the export and import of goods. Several railroads, as originally projected, was to extend from Baltimore to Pittsburg on the Ohio, by a route which would make its length 325 miles. The proposed capital for this undertaking was five millions of dollars, to which the state subscribes 1000000 dollars; but these railroads have been large in part in construction and in operation, but great obstacles to its completion have been presented. Another railroad, to extend from Baltimore to York, Pennsylvania, a distance of 76 miles, was commenced in 1830. A branch of the Baltimore and Ohio railway, which connects with this road, was opened in 1834.

In addition to these, several canals have been projected: one of them to extend from the tide-water of the Patapsec river above Georgetown, in the district of Columbia, to the sea, and to the township of the same name, and its estimated cost 22,375,000 dollars, one million of which was subscribed by the United States. A charter of incorporation was granted by the state of Virginia in 1834 to the company by whom this canal was undertakon, and it was confirmed by the legislature of Maryland, and by the Congress in 1825. The work was commenced in 1828.

Baltimore is laid out with regularity; the streets, some of which are of considerable width, are for the most part straight, and at right angles with each other. There are several large and handsome churches; those particularly which are appropriated to Roman Catholic and Unitarian worship. The cathedral contains a fine organ. The citizens have erected a monument in the broad square, in front of the basilica, which is 15 feet high, is placed on a circular pedestal which stands on a base 50 feet square; the summit is 160 feet from the ground, and as a spot has been chosen for the erection of the monument, which is 100 feet above high-water mark, the statue is a very conspicuous object; it was sculptured in Italy.

The progress of the town may be seen from the following statement of its population at various periods:

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1775</td>
<td>1100</td>
</tr>
<tr>
<td>1790</td>
<td>13,503</td>
</tr>
<tr>
<td>1800</td>
<td>26,514</td>
</tr>
<tr>
<td>1830</td>
<td>80,625</td>
</tr>
</tbody>
</table>

The city contained, in 1830, ten banking companies with an aggregate capital of nearly seven millions of dollars, four canals, and five insurance companies. The tonnage belonging to the port at the end of 1831 amounted to 43,563 tons, of which two-fifths were employed in the coasting trade. The ship-builders of Baltimore are celebrated for the construction of very fast-sailing vessels, and were much engaged in the building of the ships of the United States. The total value of imports into the state of Maryland, in 1832, almost the whole of which were received at Baltimore, amounted to 4,499,918 dollars. The average quantity of exports from the first half of the year of 1830, was 557,409 barrels. During the last war between England and America (in September, 1814), an attack was made upon this city by the British troops under General Ross. The assailants were repulsed by the citizens with considerable loss. In this event, the inhabitants have erected a monument of marble, thirty-five feet in height, which they call the battle monument, and upon which are inscribed the names of their fellow-citizens who fell on the occasion.

The University of Maryland, which was incorporated by the state in 1812, is situated in Baltimore, and is in part supported by an annual grant from the state of 5000 dollars. It was intended that all the usual branches of education should be taught in this University, but, up to a recent date, the only classes in actual operation were those of medicine and law. The Washington Medical College, which was incorporated in 1833, is also opened in Baltimore. Two other institutions, for more general education, St. Mary's College, and Mount Saint Mary's College, both of Baltimore, are under the patronage of Roman Catholics, and are of great importance in Maryland. The first-named of these colleges, which was founded in 1791, has a library of 10,000 volumes, and a good philosophical and chemical apparatus. Mount Saint Mary's College, which was established in 1809, has also an accessible library. There were besides, in January, 1831, about 175 male and female schools in the city.

Baltimore sends two members to the House of Delegates, and one member to the senate of the state of Maryland.

The city is about 34 miles N.E. of Washington, and 83 miles W.S.W. of Philadelphia. It is situated in 39° 19' N. lat. and 76° 44' W. long. (Thompson's Alspot; Hall's Travels in America; American Almanac; Papers prepared to Congress.)

Baltimore, Lord, founder of the colony of Maryland in North America. The family name of the Lords Baltimore was Calvert, who were originally of Flemish extraction, but for a long time were settled in Ireland. Sir George Calvert, the first Lord Baltimore, held several lucrative situations, and obtained extensive grants of land in Ireland and Newfoundland under James I.; but having, in the year 1624, become a Roman Catholic, he was expelled from his situation in the government of that country, and deposed from all his offices. He then petitioned the crown in England, and was ordered to reside in London, and to abstain altogether from interfering in public affairs, the intolerant spirit of that age prohibiting the open exercise of the Catholic worship. It was an age, however, of great enterprise as well as of religious intolerance. The discovery of the New World, the growth of the British Empire, and the increasing knowledge of America, and the passage by sea to the East Indies, had not yet spent its force; and the founding of settlements, or
planted, as they were then called, in distant colonies was
pursued with great ardour, no less by the adventurous spirits
who, in a less pacific reign, would have employed their ener-
gies in war, than by those who, though born at home, or aborning the civil and religious
tyranny of the Stuarts, became voluntary exiles from the
land of their birth. The Catholics were not, it is true, as poli-
tically obnoxious to the court of James I. and his successor,
as those numerous and influential sects of non-conformists,ho,
abhorring the civil and religious tyranny of the Stuarts, became voluntary exiles from the
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tically obnoxious to the court of James I. and his successor,
as those numerous and influential sects,ho,
place raised off in the antient baths. (Nicholas's Archi-
tecture, 1556.) Or another conjecture is also to be derived from 'balastrium,' the flower of the wild pomegranate, which it is said to resemble. (Encyclopa
de Methode d'Architecture.) Balustre appears to be only
a modification of the word balastrium. It is difficult to
imagine how the word 'baluster' is derived from the Greek
name of the flower of the pomegranate, which we do not even
know the form of the antient baluster, or whether it bore
any resemblance to that of the modern. We think it more
probable that the word was derived from 'balista,' an
engine used by the Romans for throwing stones. (Encyc.
d'Anciennes.) Balista was the engine, and balustre the place
where the balista was put; and it is possible the balustre was
raised in it. The balustre was, according to Lipsius,
the engine itself. (Plutarch, Pompey, t. 1. 73; Lipsius,
Pompey, p. in diem 27.) The balista, or
balustre, was in the form of a bow, and the profile of
the baluster or balister is also in the form of a bow. The
Norman-French word for a crossbow is 'arbalister,' and the
modern word for bow is the Greek 'arbalister.' The
Romans adopted it, and which is the form of an antient bow in its profile; it is employed in balustrades. (See Illus-
tration.) The balustrade has also of late years
been formed after the model of Greek and Roman columns.
Balusters are placed on a plinth, and are surmounted with a
section of the shaft of a Greek column, or of Greek
Saracens, and others. The proportions of balusters are
given in the work of Sir William Chambers on Archi-
etecture, where they are proportioned to the orders, and are made
closer or lighter according to their destination; the
beams are placed upon the baluster on the Corinthian,
and the lightest to the Compendium and Composite orders.
Balustrade, the termination of a modern edifice.
There does not appear to be any example of a balustrade in
the Romanesque or Byzantine style; but throughout there
are examples of railing or of fencing. (See Pompa.
trum.) Balustrades are most commonly placed over the cornices of large
buildings, after the manner of a parapet, as at the Banqueting-
House at Whitehall, St. Paul's church, London, and Blou-
s's and Westminster for bases; this is the last. There are
fine examples of balustrades. Balustrades are not
only employed in large edifices, above the orders of architecture [see Bascrt,]
but also to inclose stairs, terraces, terraces,
tables, and the balconies of houses. (See Balcony.) The
balusters forming a balustrade are placed on a plinth, at
equal distances from one another, with a small opening
between them; they support a cornice, and are divided at
intervals by a pedestal. (For the proportions of a balustrade
over an order of columns, see Chambers's Architecture.)
When placed over an order of columns, it is usual to use the
devise of the pedestal over the columns, making
the breadth of the die equal to the breadth of the shaft.
Balustrades are made of iron and wood, as well as stone.
In Italian balustrades are of very frequent occurrence, and
of considerable extent. At Frascati there is a balustrade in
the Villa Conti, more than 2000 feet in length. The colon-
nade of St. Peter's, by Bernini, is surmounted with a
balustrade. But perhaps the most elegant balustrade in
Rome is at the Villa Albani; the form of the balustrade
is thus different from that of the bow- and bow-shaped balustrade commonly employed.

Example of Balusters employed in four different structures.

Westminster Bridge.

Villa
Albani.

Bow-shaped
Baluster.

Blackfriars Bridge.

The cut represents four kinds of baluster; one like the

how above-mentioned, the others as if the bow-like balusters
were meant to form row balusters. The latter is the baluster most commonly used. The
former appears to be the oldest and earliest form: an example of it may be seen in some of the galleries of old
wooden buildings in England and other countries of Europe. The court-yard at Chillon Castle, and the leading
into Catus College, Cambridge, present examples of
the bow-like baluster. There are examples also in the
works of Palladio, Vignola, Scamozzi, and other architects of
Italy.

ALZAC, JEAN LOUIS GUEZ, Seigneur of Baluze,
was born at Angoulême in 1594. His father, Guillaume
Guez, was attached to the service of the Duke d'Epernon;
and young Baluzé went early to Rome as secretary to
Cardinal La Valette. His residence of some years in Italy
led him to compare the high position which the French
language had attained, and the rich literature which it had
produced, with the rude and barren condition of the
language and literature of his native land. On his return
to France he fixed himself at Paris, and then began
writing. With the assistance of a cultivated taste,

an extensive reading of the Latin classics, and a good ear,
he contrived to introduce a harmony, a precision, and a

correctness of style which were before unknown in French.
Baluzé was the first French poet of his time, the
most frequent writer of his time, and the reformer of the French
language. His contemporary, Malherbe, effected a similar
improvement in French poetry. They were both the
forerunners of the great writers of the age of Louis XIV.
Baluzé's merit may perhaps be compared to that of
Faret, who obtained him a pension of 2000 francs, with the
honorary rank of councilor of State. His works, in his own
time, had many admirers and also many detractors; the
violence of the French, and the jealousy of the Spanish,
who attacked Baluzé with bitter invective. Baluzé replied
with great temper in several pamphlets, bearing the
fictitious name of Oiger; but at last, disgusted with these
polities, he quitted Paris, and went to live at his estate on
the coast of the Bay of Biscay. He continued to write, and to keep up a correspondence
with his friends. He died in 1635, and was buried, according
to his own directions, in the cemetery of the Hospital of Angou-
lême, to which institution he left a legacy of 12000 francs.
He also left a gift of 2000 francs to the French Academy
for the purpose of establishing a prize for eloquence in
prose writing. In course of time most of Baluzé's works fell
into neglect, except his Familiar Letters, which have been
repeatedly printed. There are some of his works which do not deserve to be buried in obscurity. His
Arithmétique, ou de la Cour, which he dedicated to Christi,
queen of Sweden, is a series of discourses on the duties of
princes, ministers, and men in office; on good and on false
purposes, and on the power and superiority of the
Christian and modern history, interpenetrated with some curious anecdotes.
It shows much sound judgment and honest principle, and is
a book worth reading even now. He also wrote Le Prince;
the title of which he probably took from Machiavelli, a
celebrated work of the same name, with which, however, it has
little in common but the title. It is a sort of commentary on
the politics and events of his time, and a eulogy of Louis XIII.,
who is represented as the model of a good king: it con-
tains much invective against that king's enemies, and chiefly
against Spain, the old rival of France. It is curious to ob-
serve, at this distance of time, and under circumstances so
much altered, the mixture of dread and hatred shown by
French and Italian writers of the 16th and 17th centuries
towards Spain, then the most formidable power in Europe.
Baluzé compared it to the beast with seven heads and ten
horns, which aspires to the dominion of all the world; and
he calls the Spaniards brigands of all the lands, and pirates
on all the seas. He depicts in vivid colours the ambition and
the remonstrances of Philip II.; and sees in the
Spanish cabinet of still pursuing the same maxims of dark,
crooked, and sanguinary policy. There is considerable
power and some historical truth in the whole of this invective.
The work is dedicated to Cardinal Richildis, the
archbishop of Paris, when the
author observes in his letter of address, 'will be amused at
the veneration of some of his prelates, and will enjoy
the sight of a philosopher in a passion.' The other work of
Baluzé which deserves mention is Le Sevare Chrétien,

a series of discourses on the Christian religion and morality
in which the author reproves Jesuits, hypocrites, per-

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their favour, and in the parliament of 1560 the reformed religion was established by law.

On the 11th February, 1563, Balnavis was re-appointed a Lord of Session, in the room of Sir John Campbell, of Logan, for the same year. He was then named by the General Assembly of the Church of Scotland one of the commissioners appointed by that venerable body to revise the Book of Discipline. He is said by Keith (Hist. 375) to have been one of the messengers to the Lord Justice General on the trial of the Earl of Bothwell for the murder of Darnley; but this is extremely doubtful. The next year he attended the Regent Murray as one of the commissioners from Scotland to York in relation to the cause against Mary for the same murder; and he was one of the two afterwards sent to London on the part of the Regent in the same matter.

According to Mackenzie (Licee, vol. iii. p. 147), Balnavis died in 1579; yet in the Pitmedden MS. we find it stated that on the 26th October, 1576, Maczillean of Clifton Hall was appointed a Lord of Session in the room of Henry Balnavis, deceased.

Besides the treatise above mentioned, Balnavis wrote a short poetical piece, entitled "Advice to a Headstrong Youth," which the Scotch poet, Allan Ramsay, has transcribed into his Evergreen.


**BALSA'MINE.** A natural order of plants first indicated by Theodore Nees v. Ekenbeck, defined by Dr. Blume in his Flora Jamica, and adopted by Dr. Lindley in his *Index.* It is intermediate between the *Willow* and *Plants tribes*, from the former of which it differs in having a two-celled fruit and downy seed; and from the latter in having numerous seeds. It consists of lofty trees, flowing with balsamic juice, bearing the flowers in small scaly heads, without either calyx or corolla, and having the stamens in one kind head of from the pistils in another. The different species yield the resinous fragrant substance called liquid storax, which is so much prized by the inhabitants of the East. The whole order consists of but a single genus, called *Liquidambar* (which see).

**Balsa'mina.** One of the only two genera of which the natural order *Balsamince* consists. It differs from *Impatiens* in having all its anthers two-celled, its stigmas distinct, and the valves of its fruit curving inwards when burning. There are numerous species, several of which have very handsome flowers: they are chiefly found in the damper parts of the East Indies; but the only one that is much known in Europe is the common garden balsam, *B. campestre*, a double species, in which the cultivation of the garden seeds is the earliest records of modern cultivation. This plant, which is supposed to be found wild in the mountainous parts of Silhet, in the form of what botanists call *Balsamum fruticosum*, is one of those species which not only has a tendency to vary with double flowers, but has the power of continuing to produce them when renewed from seeds. On this account it particularly deserves the attention of the cultivator, especially as it may be brought by art to a state of beauty equalled by few plants. All that is necessary in order to secure fine balsams is, first, to save the seed with great care from the finest and most double flowers only, throwing away all whole-coloured and single blooms; and, secondly, to cultivate the plants with a due regard to the natural habits of the species. A natural sunny, hot, damp, shady woods of Silhet, is incapable of bearing much drought or bright sunshine. It should, therefore, be raised in a hot-bed, treated with great care as a tender annual, grown up from seed, as early as possible, and kept constantly in a damp atmosphere, but freely and gently ventilated. It should not, however, be stimulated into extremely rapid growth until the plants have become stout bushes, with leaves grown to the size of small peas. At that time the plants should have all the branches and most of the flowers cut away; they can bear, and the most brilliant flowers the plant is capable of producing will be the result: in the latter stage of growth great care is still to be taken to expose the pieces, for a time.

**Balsamine.** A small, natural order of plants belonging to the Glycosceae alliance of Decayedaceae, and principally distinguished from *Garrancanema* by their many-seeded fruit and unisymmetrical flowers. They are succulent herbs, most abundant in hot countries, with smooth, opposite, or alternate leaves, and showy flowers, with a spur to their calyx. They have no sensible properties of importance, but are the ornament of the damp or swampy places in which they grow wild. The order is remarkable for the elastic force with which the valves of its first contract and reject the seeds.

**Balsamodendron,** a genus of Oriental trees belonging to the natural order Amygdalinae, and remarkable for their powerful balsamic juice. They have small green axillary diocious flowers, a minute four-toothed persistent calyx, four narrow inclosed petals, eight stamens inserted below an annular disk, from which eight little exserted arms alternating with the stamens, and a small oval drupe with four sutures, and either one or two cells, in each of which is lodged a single seed. The leaves are pinnated, with one or two pairs of leaflets, and an odd one. Five species are mentioned by botanists, the best account of which is by Professor Felt, from whom we gather the following particulars.

**Balsamodendron opobalsamum.** The Balsem of Bussa has a trunk from six to eight feet high, furnished with a number of slender branches ending in a sharp spine. The leaves consist of from five to seventeen, ovate, oblong, oval, and shining leaflets, within which are strown in pairs on short slender stalks, and so succeeded by small oval flowers. From this is distinguished the

**Balsamodendron Gliricisimum.** Supposed to be the phylogene *live*, of Theophrastus, which is described as a small-sized tree, with the leaflets growing in threes, and the flowers singly. But it is probable that, as these balsam trees were found in the same places, and produce the same substances, they are, in fact, nothing but variants of the same species. They both produce three different substances: 1. *Balsam* of *Mersa, or of Gidron, or Opobalsamum;* 2. *Xylocopalesium;* 3. *Canthites,* the first obtained from the trunk of the balsam tree by simple incision; the second by cutting the branches and shrimping the leaves as near to the stem as possible, the third, by sample pressure in the fruit. They are no longer met with, even in goodtime, about Gidron in Palestine,
Myrrh, a gum-resin, celebrated from all antiquity for its aromatic and fragrant properties, is yielded by two other species of this genus:

_Balsamodendron myrrha_ is a small scrubby tree found in Arabia Felix, near Gison, scattered among species of acacia, euphorbia, and moringa. Both its wood and bark have a strong and remarkable colour. The branches are stiff, short, and spiny; the leaves composed of three obvate, unequal leaflets, with distinct crenatures, and the fruit a narrow, oval, furrowed plum, surrounded at the base by the persistent calyx. Its flowers are unknown to botanists.

_Balsamodendron Kaduf_ has fewer spines, and downy and more distinctly serrated leaves. Its wood, which is red and resinous, is a common article of sale in Egypt.

Whatever may be the product of the last species, which Forskahl states to produce the myrrh of commerce, it is now certain that this substance is yielded by _Balsamodendron Myrrha_, which Ehrenberg found on the frontiers of Nubia and Arabia, bearing a substance identical with the myrrh of the shops. It is, therefore, no longer to be doubted that the suggestion of Bruce, that it is the produce of a kind of mimosa, a most improbable circumstance, by the way, originated in some incorrect observation.

_Balsamodendron argyranthum_ is mentioned as a fifth species, producing oriental elemi, which is very different from the American kind; but of this too little is known to enable us to do more than advert to its existence.

Myrrh, a natural gum-resin, the source of which was long doubted, was observed by Ehrenberg to exude from the bark of the above-mentioned species of _Balsamodendron_; it is a thick, white substance with a shining aspect, which is said to be owing to the action of alcohol. The fracture is vitreous or conchoidal. It is in general only partially transparent at the edges; when perfectly transparent, it is of a transparent quality. The smell is peculiar and rather disagreeable, the taste is bitter and very unpleasant.

Myrrh in sorts is the term applied to various inferior and adulterated kinds. These are generally in much larger pieces than that described above, from which they differ in physical appearance as well as chemical qualities.

The alcoholic tincture of the best myrrh, mixed with equal parts of nitric acid, becomes red or violet. The tincture of the false myrrh (of Bonastre) so treated becomes turbid and yellow, but not red. The taste of this false myrrh is very bitter, but the smell is that of turpentine. Another false kind is in its inner part almost without bitterness, but the outer portion is often moisture and tunnel of myrrh, or entirely covered with some of the genuine. Dr. Dyson Martin describes a white myrrh, which has a very bitter taste like eoclynth, and an external appearance like ammonium; it is probably ammonium, treated with tunnel of eoclynth. Another false myrrh may be distinguished by its transparency and lighter taste.

Basil is often substituted for myrrh, from which it may be distinguished by being generally in larger angular pieces, of a dark-brown hue, scarcely transparent at the edge; the colour is lighter and the smell disagreeable than genuine. It softens slightly with the heat of the hand, while myrrh becomes drier. It contains more bassorine, and possesses some degree of acidity. It melts almost entirely in the mouth, while genuine myrrh, when chewed, adheres to the teeth, and imparts to the saliva a milky colour.

East Indian myrrh is in large pieces, altogether opaque, frequently covered with a brownish-white powder. The source of this is unknown, but it is conjectured by Louriero that a tree called _Imperium myrrha_, a native of Cochin China, yields it. The so-called myrrh of Abyssinia, which is gum _opocalpasum_, is yielded by the acacia _gummi-vulva_ (Wild.), called also _Inga Sassa, and is probably a variety of the gum of Bassora or Bagdad.

A portion of myrrh brought from Arabia by Ehrenberg, analysed by Brands, yielded the following:

| Substance          | Quantity
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Resin, soluble in ether</td>
<td>22</td>
</tr>
<tr>
<td>Resin, insoluble in ether</td>
<td>5</td>
</tr>
<tr>
<td>Gum</td>
<td>54</td>
</tr>
<tr>
<td>Bassorine</td>
<td>9</td>
</tr>
<tr>
<td>Volatile oil (myrrh oil), which is heavier than water</td>
<td>2</td>
</tr>
</tbody>
</table>

Traces of salts, malleas, benzoates and sulphates.

Its specific gravity is 1.40. Water dissolves about 66 parts, one-third of which is deposited upon standing. Alcohol dissolves the remaining 34 parts; but on the addition of water, it becomes opaque and milky, but without any precipitate. Acetic acid and milk also dissolve it.

Myrrh, though containing a volatile oil, seems to act more from its bitter qualities, which approach to the character of a stimulant tonic. It increases the energy of the whole frame, giving solidity to the solids, and greater consistency to the fluids. The secretions of the mucous membranes particularly are improved by it, and diminished in quantity when excessive. Its introduction into the stomach is followed by a sense of warmth, which diffuses itself over the whole abdomen. The appetite is increased, and the digestive process is facilitated, especially where there is weakness and torpidity of the intestinal canal, sometimes accompanied by too copious mucous secretion, (constituting what is termed diarrhoea mucosa.)

The mucous membrane of the lungs is acted upon in the same way; here myrrh is very useful in affections of laryngeal and feeble persons, who are unable to expectorate the abundant fluid secreted by the air-tubes (bronchi.) For the humid and chronic cough of old people it is very serviceable, especially if given along with sulphate of zinc. For the cure of a cough which often occurs during pregnancy, and even continues after abortion, along with oxide of zinc, it is well-suited; as well as for hysterical coughs, in which last it may be given along with cinchonas bark, or preparations of opium and the like.

From its cleansing power in the case of external ulcers, it has been recommended in consumption (phthisis pulmonalis); but in the early stages, or even the later, if there be much hectic fever, it is quite inadmissible; and when available, it is only useful as imparting strength to expectorate, having no power to cure the disease.

In amenorrhoea occurring in feeble persons, it is of great use, along with astringent medicines and preparations of iron, both in the form of a paste and a bath. Its best use is a subsequent number of cases in which it can be employed; but as a means of cleansing ulcers, as well as a wash to parts in dan, or of ulcerating from pressure (as in patients long confined to bed, from fever, fractured limbs, or other causes), the tincture is preferable.

Myrrh is an ingredient in a great many tooth-powders.

The produce of the _Balsamodendron Giteaudense_, though called a balsam, and denominated balsam of Moecia, balsam
of Gilead, is not entitled, chemically, to rank as such, being an
undigested residue. It is of two kinds, that obtained by spon-
taneous exudation, and that which is obtained by boiling
the branches. The former is so highly prized in the East, and
so expensive, that it is never brought to Europe. That
which is obtained by boiling is of different qualities and
values, and the larger part of it is obtained by boiling for a
short or long time. When for a short time only, the substance
which floats on the surface is highly esteemed, and almost
all of this quality is consumed in Asiatic Turkey and
Egypt. It is only obtained by a very peculiar system, dis-
scribed by Strabo (b. xxvi. p. 783). —
' The balsam is a shrub of a brambly appearance or kind, like
the cyrusus and terebinthus, and possesses aromatic
properties. They eat the bark, and catch the juice that
exudes in vessels: the juice resembles only milk. When
put into the nascent urethra, or attacks that are
very wonderful powers in curing headaches, inpefect defences
(i.e., means catarrhus), and dimness of the eyes: it is accord-
ingly highly procured. The xylis balsamum is also used as an
aromatic.'

Numerous fabulous statements are recorded on
medicinal substances respecting this article: such, for
example, as the mode of judging of its purity by dipping
the finger in it, and then setting fire to it, when, if it
burns without causing pain, it is considered suitable, but
if it is consumed it is adulterated with sesame oil, the
produce of the Perus balsamum, and P. Comnides, Chian
turpentines and even tar. A portion of the purest kind, ana-
ysed by Trommsdorff, yielded

<table>
<thead>
<tr>
<th>Resin (with some extractive)</th>
<th>64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resin, inodoluble in alcohol, a small quantity.</td>
<td></td>
</tr>
</tbody>
</table>

It burns without leaving any residuum.

Though formerly considered a cure for many diseases, it
has now fallen into disuse. Any benefit which might be
derived from it can be obtained from any of the finer tur-
rentines. Its heating qualities render it very unfit for cases
where any inflammatory action exists, whether internal, as
cerebrum, or external, as wounds. There is reason to be
believing, however, that the same oil, and even the same
animal, which contains no portion of Mecca balsam : but that the most celebrated of these medicines, called Solomon's Balm of
Gilead, consists of cardamum and balsam, which must be
used in the form of balsams.

**BALSAMS.** The substances commonly included under
this title are of various natures: first, there are natural balsams,
exuding from trees, as those of Peru and Tolu, &c.,
which contain benzene acid and resin, and these only
will be considered at present. There are, besides, the
balsams of Copasias, Gilead, &c.; these contain no ben-
zeine acid, but are turpentines containing a volatile oil and
resin; these will be described as turpentines. Lastly, there
were in former pharmacopoeias sundry very different prepara-
tions ranked together under the title of balsams. For example, balsam of sulphur, traumatic balsam, &c.; these, when retained in
modern pharmacopoeias, are arranged under other forms.

Balsams are obtained from certain vegetables, chiefly of the
lignum-vitae tribe, and that section of Americana called Salvearia.
Numerous substances of a resinous nature were formerly
designated balsams, and turpentines and balsams are still
popularly confounded with each other. The term balsam,
however, should be limited to such articles as contain benz-
zeine acid and along with a volatile oil and resin. The others,
which contain only volatile oil and resin, should be called
turpentines, or oleo-resins. The true balsams appear to be
only five, viz., balsam of Peru, Tolu, Sulfur, Guaiacum, and
Balsamum leguminosum, and benzoin, from Syringa benzoin (Dryandreae), and St.瑞 from Syringa officinalis (Syringaceae), and These
man, from the Megastigmus Stylosaflora, and E. umbellifer (Sapotaceae).

The observations upon the medical uses of balsams are
therefore to be understood to apply only to those specified
above. To produce their characteristic effects they must be
digested and assimilated; on which account they are chiefly
administered internally, their external application being
followed by very limited action. They are with difficulty
soluble in the annual juice, so that it is not till after they
have been used for some time that the secretions acquire
their peculiar odour. These facts, taken into consideration, along with the enduring nature of their action, point out
their greater fitness for chronic than acute diseases.

They may be regarded as stimulants of the secretory
and mucous system to induce continued action. Their
influence is greatest over mucous membranes, the
secretions from which they render more abundant when
deficient, and more consistent when too liquid and of
imperfect quality. The mucous membranes of the lungs and
the bronchial tubes are very little affected by the influ-
ence than that of the intestinal canal. They possess a
similar power over the skin, the secretion of which they
regulate according to its condition: when cold, pale, dry,
and in a state of atony, they promote perspiration; but
if the weakness be so great that the skin is covered with
a cold clammy sweat, or of a colliquative kind, the balsamic
medicines frequently check its flow.

When given in large and long-continued doses, they act
upon the secretory system and venous system, as well as the extreme or capillary vessels, which hasten their
excite when brought into direct contact with them, as in the
case of wounds or ulcers.

They possess some power over the nervous system, but
least over the viscera of animal than of organic life. It is in
diseases referable to morbid states of the nerves of organic
life that balsamic medicines are most useful, especially
when they are in a state of weakness, torpor, and impotent
function of the nerve. Thus, they are employed in cases of
over-excitement, calming it, and approaching, in this
character of antisapamodie. Under this head they are
the most powerful, and most frequently employed, generally
in the form called purgative emulsion.

From what has been stated above, it is clear that they are un-
suited to the beginning or early stages of the diseases or
which they are most commonly employed by uninformed
persons. So long as any acute inflammatory action exists they
are decidedly hurtful; but after this has subsided there
is much benefit to be derived from the use of these
balsas, and the caustic power of the balsam, together with
the cough and facilitate the expectoration, in the later stages
of hooping-cough, and in the humed cough of old or weak
persons, i.e., in one of the most of the states popularly called
asthma. Balsamic medicines are, however, totally un-
suitable for use when the same disease is attended with
any organic change of the heart or lungs. They may be
advantageously employed in the later stages of influenza
and subfebrile catarrh. The early use of purgative
emulsions is markedly attended with injury.

The external employment of balsams as a common cold
does not occur, except in cases of much injury.

The external employment of balsams is completely banished from modern surgery. The evil of this
employment was obvious to the eyes. Prior to balsam balsam
balsam, balsam for cuts, &c., as certain combinations of
ointments of balsam and other ingredients were used.
These were heated by suppression and granulation, which is a much more balsamic process.

To some indolent wounds and sores, especially in parts not
protected of much vascularity, their application is a
considerable benefit. Agar and gums are in general
equally injured by them; they are also used in cases of
consumption only maintained by ignorant and unpre-
cipita persons, who vend them pernicious compounds to the
weak and credulous among their suffering fellow-
creatures.

[For balsam of Canada, see Pinus Balsamum; for bal-
sam of Copasias, see Copasias; and for bal-
sam of Peru and Tolu, see Myroperum.]
forms the southern part of the Danish peninsula called Schleswig. It is connected with the ocean by means of a large gulf called Kattegat, which separates Denmark from Norway and Sweden, and by three straits, the Sound, the Great Belt, and the Little Belt, which may be considered as three gates by which the Baltic Sea is entered.

The main body of the Baltic Sea does not lie in one direction. Between Denmark and Prussia it extends from west to east, but between Cape Torhamnusdo and Sweden and Cape Brusterort in Prussia it bends to the north, and the whole of the Baltic Sea is divided into nearly equal parts. The northern adds considerably to its breadth by extending from north to south, but it is narrowest between the Danish islands and the coast of Holstein, and Mecklenburg, which are more than sixty miles in breadth, and Luxemburg and the English Channel, which run about 280 miles to the east, is not more than from forty to seventy miles in breadth. The smallest of the three gulf, that of Livonia or Riga, is sixty to eighty miles wide, but it extends only about a hundred miles to the south-east into Livonia and Courland.

The surface of the whole sea, according to the calculations of German geographers, is upwards of 100,000 square miles. The climate of the Baltic Sea is like that of the Little Belt, Cape Domestnes, at the entrance of the Gulf of Livonia, is low and sandy, and lined by numerous sand-banks. The beach is covered with small pebbles of granite and porphyry, which, in some places, as at Dobberan in Mecklenburg, have formed valleys of considerable height and extent; in other parts they are downs, or sand-hills. This part of the coast is characterized by fresh-water lakes called Haffa, which are separated from the sea by a narrow and sandy belt, but somewhat elevated tracts of land called Nierer, and hills. Cape Domestnes, and the shores of the Gulf of Livonia are low, and commonly sandy, though in a few places intercepted by a rocky beach. The rocky coast becomes general at Cape Spathnambrie, at the entrance of the Gulf of Finland, which is the widest part of the Baltic Sea, and that of Bothnia, and even to the south of the latter to the entrance of the Sound of Calmar, which separates the island of Oeland from the continent. With the exception of the numerous recesses of both gulfs, which are low and sandy, the whole of this extensive coast is rocky, though commonly low, rising in very few places to more than fifty feet. Among this coast there are numerous cliffs and rocky islands of small extent, called by the Swedes Alstor, to the finest of which are the Skeppsholmen and the Nisern and the Duna, near their sources, drain countries which are from 250 to 300 miles from the sea. To the north of the Gulf of Finland the basin of the Baltic becomes more contracted, though round the Gulf of Bothnia and the Sound of Calmard, where the coast is general, the coast extends 150 miles from the coast. It is only a few miles away, where it approaches the North Sea, that the waters falling into it have a short course, frequently only a few miles. Comparing the extent of country drained by the

The basin of the Baltic Sea is of considerable extent. On the south it reaches, by the Oder and Vistula, the drainage of countries which lie 300 miles and upwards from its shores, and it is separated from the North Sea by the Nisern and the Duna, near their sources, drain countries which are from 250 to 300 miles from the sea. To the north of the Gulf of Finland the basin of the Baltic becomes more contracted, though round the Gulf of Bothnia and the Sound of Calmar, where the coast is general, the coast extends 150 miles from the coast. It is only at its western extremity, where it approaches the North Sea, that the waters falling into it have a short course, frequently only a few miles. Comparing the extent of country drained by the

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To these two circumstances—the small degree of saltness and the little depth of its waters—it is to be attributed that the shores of the Baltic nearly every year are covered with ice, which in general, from the end of December to the beginning of April, shuts up the harbours and quays, and prevents navigation. In the Gulf of Finland and of Bothnia the freezing begins sooner and ends later. In the first months of the year, great pieces of ice are sometimes met with between Stockholm and the islands of Dago and Örskö. This, so far as I know, though rarely, that extensive portions of the Baltic are frozen over. According to tradition, a communication over the ice was established in 1333 between the town of Lubbeck and the Danish islands and the coast of Prussia, and public affairs were conducted along the route. In 1626 Charles X. of Sweden marched an army over both Beits to the conquest of Zealand; and in our days, in 1809, a Russian corps passed from Finland to Sweden over the ice, at the narrowest part of the Gulf of Bothnia, called the Quarkan. The waves of the Baltic do not rise to such a height as in the North Sea, or in any other part of the Atlantic, but they break much more abruptly. The first circumstance is probably caused by the narrowness of the sea, and the second by its inconsiderable depth.

The current of the Baltic may be compared to that of a wide river or a large estuary. It commences at the remotest extremities, and its course is towards the outlets of the sea. The Baltic is defended against the sea by numerous rivers into the northern part of the Gulf of Bothnia, whose united waters form a current which is very rapid in the strait of the Quarkan. It becomes less rapid where the Gulf enlarges, and divides afterwards at the Åland Islands, into a more or less distinct current, which, however, again unite, and the stream is felt over the entire surface in the central parts of the sea, until it makes its exit through the three straits, being most sensible in the Little Belt. What is commonly observed in wide estuaries happens here also. When a strong wind has blown for some time, it changes the current, and causes an influx of water from the open sea. Such a current is known to exist sometimes even at the entrance of the Gulf of Finland, where it is called the Varvance of the Baltic.

The tides, which rise to a greater height in the North Sea than in most other parts of the ocean, especially along the shores of Germany and Jutland, decrease rapidly in the Kattegat, so that in some places they produce only weak and irregular oscillations of the water. Their feeble efforts may still be traced in the three straits, but farther southward they disappear entirely. At Copenhagen the average tide is about one foot.

The herring and the mackerel have a rise of the waters in the Baltic, which seems to proceed from another cause. The surface sometimes rises to three feet and upwards above the ordinary level, and maintains itself at that height sometimes for a few days, but occasionally for several weeks already. This occurs only in the countries, but it is not very frequent in autumn. This phenomenon has not yet been explained in a satisfactory manner.

The Baltic does not abound in fish either as to species or numbers. The herring once visited it in abundance, and this fishery was considerable in the 15th and 16th centuries along the coasts of Scania or southern Sweden; but since that time only individuals have been caught. It would even seem that it has abandoned the Kattegat. But on the eastern coast of Sweden, especially on both sides the Gulf of Bothnia, a fish is caught in great numbers, which is only distinguished from the herring by its being smaller. It is called streaming-fish, and is the only fish of the Baltic which is not consumed in its fresh state, but dried, salted, and otherwise prepared for a distant market. The greatest quantity is taken between the Quarkan and the Åland Islands, and many families on this coast gain their subsistence by this fishery. The next most important fishery is that in the straits between the Danish Islands and the British isles, which are not located farther to the east, and are situated in the natural and productive kind, enter these straits from the Kattegat, and afford an abundant supply of food to the inhabitants of some of the smaller islands. On the east coast of the Baltic only a few fishes of any account are to be found, except the island of Gothland and the Åland Islands, on which a considerable number of seals are killed at the breaking up of the ice which in winter attaches itself to these islands. The most abundant species of fish, next to those already named, are salmon, sturgeon, turbot, and bonefish; and the sword-fish. Whales are sometimes, but rarely, cast upon the shore in a dead state. The Delphinus Pistrinos is frequently caught along the shores of Scania.

Among the islands in the Baltic we must notice amber. Though met with sometimes in a few other countries, as in Sicily, it is only in the southern coast of the sea, and especially in Prussia, between Königsburg and Memel, that it is procured in considerable quantities. The amber is dug up in a district of two hundred feet from the beach; and part is thrown upon it by the waves after a prevalence of north-westerly and westerly winds.

The countries surrounding the Baltic supply timber, grain of different kinds, hides, tallow, &c., in the greatest abundance and of the first quality. If we except the seas contiguous to the British islands, and that which encloses the maritime tracts of the Chinese empire, no sea of the ocean is at such a distance from the Baltic. To support this assertion we shall only state, that in 1829, 13,486 vessels passed through the Sound, and several hundred more through the channel of Kal; and all this in spite of the difficulties and obstacles to which the navigation of this sea is subject. These difficulties arise partly from the narrowness of the sea, and partly from its numerous sand-banks along the southern and eastern shores, where shipwrecks are more frequent than in any other part. The operations of the Baltic are also shut up for three or four months by the ice, and their transportation is not in any degree less difficult. Another disadvantage is the shallowness of the harbours on the southern coast, and the complete want of tides. No vessel drawing twenty feet of water can enter any harbour as far as the Gulf of Finland; and vessels of less draught fifteen or sixteen feet. Consequently the vessels which visit these ports average only between 300 and 500 tons. This circumstance places these countries under great disadvantages in carrying on a commerce with remote places. In long voyages the profit arising from the employment of large vessels is much greater than when small ships are used: and countries which are limited to the employment of the latter cannot enter into competition with those which use large vessels. The navigation of the countries about the Baltic comprises not only their own sea and the neighbouring ports of the Atlantic. This shows the great advantages Britain derives from its geographical situation, which makes it the natural depot of the commodities exported from these countries, and such as the ports of Britain carry in large vessels to the remote countries where they are consumed. The harbours to the north of the Gulf of Finland are much deeper, and admit vessels of 600 tons and upwards; but on the western coast of Sweden the trade is in consequence comparatively inconsiderable.

The Swedes who inhabit the coasts long since observed that some places formerly covered by the sea had become dry land in the course of time. This induced some Swedish naturalists to suppose that the surface of the Baltic was lowering. But as that opinion could not be adopted without supposing that the surface of the whole ocean underwent a similar change, others thought that the whole of the Scandinavian peninsula was slowly raising. Calculations, made after the most accurate and prolix statistical data, that this rise amounted to about forty-five inches in a century; but other investigations were not favourable to his opinion. He as well as Linnaeus put marks on a few rocks, that this matter might be supported by safer evidence; but a difference of opinion on this subject still prevails. It is certain that, especially along the Gulf of Bothnia, and still more to the north of the Quarkan, several tracts are now dry land which were formerly covered by the sea; and that the islands of Gotland and the Åland Islands, which were passed over in boats by the French astronomers when they measured a degree, are now changed into mud-banks. As, however, this portion of the gulf contains very numerous, large and rapid rivers, which bring down a great quantity of earth, it is not improbable that these changes have been produced by the action of the river.
the Eastern Sea. It is uncertain whence the name of Baltic is derived. It was first used by Adam of Bremen, a monk of the twelfth century, in his description of the Baltic and the countries about it. Several etymologies have been proposed: some derive it from the Danish Bælt, which signifies a girdle; but it seems more probable that it is derived from the Baltic Sea itself, at right angles. The name is rare and entirely unknown. In the Lithuanian language, which probably had some affinity with that of the ancient Prussians, balts signifies white; and it would seem that some white-hued vessel were known. They have frequently been called White Sea. (Catteau, Tableaux de la Baltique; Travels of Von Buch, Thompson, Schubert.)

Baltimore, a considerable city in the county of the same name in the state of Maryland, in the United States of America, is situated at the head of the river Patapsco, and between it and Gunpowder River, both of which streams empty themselves into Chesapeake Bay on the west side near its head. The city is separated from the neighboring county of Harford on the east, and East River east by the Gunpowder River. The city is situated on the north and west by the Patapsco, and in the following year it was laid out and called Baltimore, from the name of the founder of the colony of Maryland. For many years it did not flourish, and its population was but small. But, as the city grew, a larger commission was appointed in 1828, which instructs, on the authority of Mr. Carroll, one of the signers of the declaration of independence, whom the captain saw in his visit to America, in 1828, that Baltimore, which then contained 704 houses, was a village of only seven houses within Mr. Carroll's recollection. The population of the place is no doubt to be ascribed to its position, which is so favorable for foreign trade, and which has been sufficient to overbalance the disadvantage of unhealthiness, to which the city has been exposed, though in a less degree now than formerly.

The town of Baltimore is built round a basin which forms one of the secures harbours in the United States, and is capable of containing 2000 sail of merchant-ships. The entrance to this harbour, which is little more than a pistol-shot in width, is defended by a fort. At common tides the water rises five or six feet, and the harbour is at all times deep enough, though the greater part of its extent, to receive ships of large burthen, but only small vessels can go quite through. The great trade that passes from the river Patapsco only departs from this harbour with the wind in a particular quarter. It is usual for large ships to load and unload in a harbour near the mouth of the basin, which is formed by a sheet of water called Locust Point. For the convenience of being near to the shipping, various stores and houses have been built on this point, and these are now so numerous as to be joined to, and to form a part of, the city of Baltimore.

The exports of Baltimore consist principally of tobacco, wheat, wheat-flour, maize, hemp and flax; and its imports, of colonial produce and the principal European products and manufactures. Much of the export trade that was carried on at this port has of late been transferred to New York, owing to the great improvements in water communication with the interior effected by the latter city. In consequence an attempt has been made to revive the commercial activity of Baltimore by the construction of railroads to facilitate the communication between the port and the interior. One of these railroads, originally projected, was extended from Baltimore to Pittsburg on the Ohio, by a route which would make its length 325 miles. The proposed capital for this undertaking was five millions of dollars, to which the state subscribed 600,000. The works were partially constructed, and in operation, but great obstacles to its completion had been presented. Another railway, to extend from Baltimore to York, Pennsylvania, a distance of 76 miles, was commenced in 1835. A branch of the Baltimore and Ohio railway was projected, and to the extent of 13 miles, partly constructed, but not undertaken. In addition to these, several canals have been projected, one of them to extend from the tide-water of the Patuxent river above Georgetown, in the district of Columbia, to Baltimore. The length of this canal would be 340 miles, and its estimated cost $2,375,000 dollars, one million of which was subscribed by the United States. A charter of incorporation was granted by the state of Virginia in 1834 to the company by which this undertaking was undertaken, and it was confirmed by the legislature of Maryland and the Congress in 1835. The work was commenced in 1836.

Baltimore is laid out with regularity; the streets, some of which are of considerable width, are for the most part flanked on each side by large and handsome buildings, and a few several large and handsome churches; those particularly which are appropriated to Roman Catholic and Unitarian worship. The cathedral contains a fine organ. The citizens have erected a monument to General Washington; the spire, which is 360 feet high, is plated with copper, which stands on a base 50 feet square; the summit is 160 feet from the ground, and as a spot has been chosen for the erection of the monument, which is 100 feet above high-water mark, the situation is a very conspicuous object; it was sculptured in Italy.

The progress of the town may be seen from the following statement of its population at various periods:

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1775</td>
<td>3,534</td>
</tr>
<tr>
<td>1790</td>
<td>13,503</td>
</tr>
<tr>
<td>1820</td>
<td>63,738</td>
</tr>
<tr>
<td>1850</td>
<td>26,614</td>
</tr>
<tr>
<td>1856</td>
<td>41,978</td>
</tr>
</tbody>
</table>

The city, contained in 1830, ten banking companies with an aggregate capital of nearly seven millions of dollars, four fire insurance companies, and more than 50 fire insurance companies. The tonnage belonging to the principal insurance companies was from 43,106 tons, of which two-thirds were employed in the coasting trade. The ship-builders of Baltimore are celebrated for the construction of very fast-sailing vessels, and were much employed in the war in behalf of the United States. The total value of imports into the state of Maryland, in 1832, almost the whole of which were received at Baltimore, amounted to 4,400,618 dollars. The average quantity of flour exported during each of the five years ending with 1839, was 557,409 barrels. During the last war between England and America (in September, 1814), an attack was made upon this city by the British troops under General Ross. The assailants were repulsed by the citizens with considerable loss to both sides. The city was unpopulated, and the citizens were the inhabitants erected a monument of marble, thirty-five feet in height, which they call the battle monument, and upon which are inscribed the names of their fellow-citizens who fell on the occasion.

The University of Maryland, which was incorporated by the state in 1812, is situated in Baltimore, and is in part supported by an annual grant from the state of 5000 dollars. It was intended that all the usual branches of education should be taught in this University, but, up to a recent date, it was only a seminary of learning, and was connected with theology and law. The Washington Medical College, which was incorporated in 1833, is also opened in Baltimore. Two other institutions, for more general education, St. Mary's College, Mount Saint Mary's College, are under the patronage of the Roman Catholic, and are situated in Maryland. The first-named of these colleges, which was founded in 1791, has a library of 10,000 volumes, and a good philosophical and chemical apparatus. Mount Saint Mary's College, which was established by the Order of Saint Benedict, in 1809, is also a good and respectable library. There were besides, in January, 1831, about 175 male and female schools in the city.

Baltimore sends two members to the House of Delegates, and one member to the senate of the state of Maryland.

The city is about 34 miles N.E. of Washington, and 83 miles W.S.W. of Philadelphia. It is situated in 39° 19' N. lat. and 76° 44' W. long. (Thompson's Alpaca; Hall's Travels in America; American Almanac; Papers printed to Congress.)

Baltimore, Lord, founder of the colony of Maryland in North America. The family name of the Lords Baltimore was Calvert, who were originally of Flemish extraction, but for a long time were settled in Yorkshire, where they acquired a large landed estate. Under Edward I., Lord Baltimore, held several lucrative situations, and obtained extensive grants of land in Ireland and Newfoundland under James I.; but having, in the year 1624, becoming a Roman Catholic, he was compelled to give up his office of secretary of state, and trade with the American colonies. In all the affairs of the Roman Catholic church, the intolerant spirit of that age prohibiting the open exercise of the Catholic worship. It was an age, however, of great enterprise as well as of religious intolerance. The Catholic church in the three countries given by the discovery of America, and the establishment of the East Indies, had not yet spent its force; and the founding of settlements, or
plantations, as they were then called, in distant colonies was pursued with great ardour, no less by the adventurous spirits who, in a less pacific reign, would have employed their energies in war, than by those who in vain sought for freedom of conscience beyond the limits of the civil and religious tyranny of the Stuarts, became voluntary exiles from the land of their birth. The Catholics were not, it is true, as politically obnoxious to the court of James I. and his successor, as those numerous Protestant sectaries who were known to us by name and reputation of a part of the population. By the bulk of the nation they were regarded with feelings of animatical hatred. Though the plantation of Maryland was originally what, in modern phraseology, might be termed a commercial speculation, the religion of its founder and the political notions of him in whose name it was invested gave it the character of a purely Catholic settlement.

The French having taken possession of a settlement in Newfoundland, upon which Lord Baltimore had expended a very large sum of money, Charles I. made him a grant of all that tract of country which constitutes the present state of Maryland, but he died before the grant was legalised; and the patent or charter was accordingly made out in the name of his son Cecil, the second Lord Baltimore. This charter is dated June 30th, 1629, and states the preamble that 'whereas our right trusty and well beloved Cecil Calvert, Baron of Baltimore, of Longford in Ireland, pursuing his father's intent, and being excited with a laudable Christian zeal for the propagation of the gospel of our Lord Jesus Christ unto the end of that empire and dominions, hath humbly besought leave of us, by his own industry and charge, to transfer an ample colony of the English nation into a certain country, hereafter to be described, in part of America not yet inhabited, that the same parts might be inhabited by certain barbarous people, having no knowledge of Almighty God, &c. &c. The charter goes on to invest Lord Baltimore and his heirs with full powers over the new colony, 'to be holders of us and our heirs and successors as of our castle of Windsor, county of Kent, and common soccage, by fealty only, for all services, and not in capit, or in knight's service; yielding and paying therefore to us two Indian arrows of those parts every year, on Easter Tuesday, and also the fifth part of all gold and silver mines which shall hereafter be made.'

Under this charter, about two hundred persons, of respectable family, and mostly of the Roman Catholic persuasion, entered the Chesapeake Bay, in February, 1634. Having purchased a village from the native Indians, they proceeded to organize the new colony, called Maryland, in honour of Henrietta Maria, the wife of Charles I. The experiment was most successful (see Maryland): a representative form of government was established; all persons who subscribed a declaration of the Roman Catholic faith were excluded from the colony. The Marylanders declared that they were a Christian people, and therefore they insisted on the right of conscience. This most honourable exception, which, however, did not extend to the Jews, soon made Maryland an asylum for persecuted sects in the mother country and the adjacent settlements.

The inhabitants of Virginia all along viewed with a jealous eye the rapid progress which the papal titulars of the neighbouring state were making in population, wealth, and prosperity; and as Maryland originally formed part of Virginia in its early days, they were with difficulty restrained from treating Lord Baltimore as a usurper of their rights and privileges. When the civil war had extended itself to the colonies, the triumph of the anti-Catholic party was so complete, that the two Marylanders did not venture to return. But at the restoration the more liberal policy by which the affairs of that settlement had been regulated before the Civil war was again adopted; and Lord Baltimore was not only permitted to retain his possessions, but they were restored with regard to its welfare realized. He died in 1676, at an advanced age. Though proprietor of Maryland, Lord Baltimore never resided in it, nor, as it should seem, even visited it.

The British Empire in America; containing a History of the Discovery, Settlement, and Progress of each Colony. London, 1768. The Case of Lord Baltimore, with a Reply, 1684. BALTIMORE. [BURLINGTON, or BALTIMORE-HANG-NEST. (See Cas. v.)

BALTINGLAS, a parish and town in the county of Wicklow, in Ireland: the town is on the south side of the river Slaney. It was once a place of considerable importance. (See Add.)

The assises for the county were also formerly held in Baltinglass, at which time it returned two members to parliament. (Dr. Berkeley's Survey of Ireland.)

The name is supposed to be derived from Beal tunna glass, which signifies the Fire of the Mysteries of Bacchus: it is also conjectured to have been the grand Beal tunna of the southern states of Lenister. In the neighbourhood are remains of several Druidical threes in the woods; graves or tombs were discovered at Baund's Grove, which is in the vicinity of the town: they were composed of large flag-stones, set edgewise, without a bottom, and covered on the top with other shapeless stones. Within the tombs were urns, made of baked earth, of a pale colour, and formed in such a way as showed that they were intended to be ornamental. The interior of the tombs was full of burnt bones and ashes. (See Dublin Journal of 12th December, 1737, on a map of Ireland.)

Not far from the town is Baltinglass Castle, which is a venerable and spacious structure: the age of the building is not recorded. In Baltinglass there is an abbey, which is still in good condition, though broken, and contains a number of tombs. It was a Cistercian order of friars, and was founded by Dermot Mac Morrough, king of Leinster. He was interred in the abbey. (Abbott's Monasticon Hiberniarum.) Upon the authority of Ware, the abbey sat as a baron in some of the Irish parliaments. King John confirmed the lands of the abbey, and granted others, among which were the lands of Arklow, containing a salt pit of considerable value. The name of the last abbey was John Geally, who surrendered on the 12th December, 1357, in consideration of which he received 10 marks. In the reign of Henry VIII. (1541) a grant of the abbey and its possessions were made to Thomas Eustace, Viscount Baltinglass. In the reign of Queen Elizabeth another grant was made to the Earl of Harrington. (Clerk's Ireland.)

Baltinglass belongs to the Earl of Aldborough, whose father did a great deal for the enlargement and improvement of the town. Wilson, in his Post chas Oxnomia, says that he had nearly doubled the houses in the county. In the year 1760, the town was incorporated by charter, by Ibn Bek, and afterwards made a corporation of merchant, deputy, recorder, and town-clerk. The town has a church, but no glebe. The living is a rectory, in the deanery of Leitrim.

About seven miles north-east of Baltinglass is Slade, or Church Mountain. On the summit of this mountain is a large pile of rough stones, including an ossuary, within which is a well, which has been supposed to be the scene of many transactions and disappearances, and afterwards making a paved pathway over the mountain from old Kirkelen, in the county of Kilkenny, to Glenash. Part of the project was carried into execution, but not, as it now appears, in a wonderfully perfect state. (Cane's Britannia.)

Baltinglass is 38 miles S.W. of Dublin; the distance to the sea is 40 miles. The parish contained a population of 2,903 in 1821; and the town a population of 130. In the year 1610, the parish contained 1,504 persons; and in the year 1764, the population was 1,375. (See Camden's Britannia; Nowell's Topographical Dictionary; Wilson's Post chas Oxnomia; and James's Indexes of Ireland; and Abbott's Monasticon Hiberniarum.)

BALLYMALOE, Bally, or Ballinister, is said, we think erroneously, to be derived from 'balystram,' or 'balystreum,' a
place railed off in the ancient baths. (Nicholson's Architectural Dictionary.) It is also conjectured to be derived from 'balustrum', the flower of the wild pomegranate, which it is said to resemble. (Encyclopédie Methodique d'Architecture.) Balustrum appears to be only a modification of the word 'baluster'. It is difficult to imagine how the word 'baluster' is derived from the Greek name of the flower of the pomegranate, when we do not even know the form of the ancient baluster, or whether it bore any resemblance to that of the moderns. We think it more probable that the word was derived from 'balista,' an engine used by the Romans for throwing stones, &c. (Vitruvius.) Balista was the engine, and balistareum the place where the balista was put; and it is possible the balistareum was raised in the same manner as a balustrum was, according to Lipsius, the engine itself. (Plautus, Pers. i. 1. 73.) In modern Italian, Polterc. c. iii. dial. 2; see Faccioli.) The balista, or balistareum, was in the form of a bow, and the profile of the balistareum or balister is also in the form of a bow. The Norman-French word for a crossbow is 'arbaliste,' and the modern French word for baluster is 'arbaliste.' There is so much resemblance in the form of the two objects, and in the words by which they are expressed, that we are of opinion that the word baluster, or balister, is derived from the Latin 'balistareum.' The balista is a peculiar kind of column, of the form of an ancient bow in its profile; it is employed in balustrades. [See BALUSTRADE. The balista has also of late years been formed after the model of Greek and Roman columns. Balusters are most commonly placed over the cornices of large edifices, after the manner of a parapet, as at the Banqueting-House, Whitehall, St. Paul's church, London, and Blackfriars and Westminster bridges: the two last present very fine examples of the balustrade. Balustrades are not only employed in large edifices, above the orders of architecture (see BASEMENT), but also to inclose stairs, terraces, altars, &c. In the basements of the balustrade, the balusters forming a balustrade are placed on a plinth, at equal distances from one another, with a small opening between them; they support a cornice, and are divided at intervals by a pedestal. (For the proportions of a balustrade see Architecture.) When a balustrade is placed over an order of columns, it is usual to set the die of the pedestal over the columns, making the breadth of the dies equal to the breadth of the shaft. Balustrades are made of iron and wood, as well as stone. In Italy balustrades are of very frequent occurrence, and of prodigious extent. At Frascati there is a balustrade in the Villa Conti, more than 2000 feet in length. The colonnade of St. Peter's, by Bernini, is surmounted with a balustrade. But perhaps the most elegant balustrade in Rome is at the Villa Albani; the form of the baluster in this differs from the old and bow-shaped baluster commonly used. Examples of Balusters employed in four different structures.

![Image of balustrades]

The cut represents four kinds of baluster; one like the bow above-mentioned, the others as if the bow-like baluster had been cut in two horizontally to form two balusters. The latter is the baluster most commonly used; but the former appears to be the oldest and earliest form: an example of it may be seen in some of the galleries of old wooden buildings in England and other countries of Europe. The court-yard at Chillingham Castle, Cambridge, present examples of the bow-like baluster. There are examples also in the works of Palladio, Vignola, Scamozzi, and other architects of the six.

BALZAC, JEAN LOUIS GUEZ, Seigneur of Balzac, was born at Angoulême, in 1594. His father, Guillaume Guez, was attached to the service of the Duke d'Epernon; and young Balzac went early to Rome as secretary to Cardinal de La Vrillière. He had been educated for the law, and it was intended that he should enter the Church; but the love of science led him to compare the high polish which the language of that country had attained, and the rich literature which it had produced, with the rude and barren condition of the language and literature of his native land. On returning to France he fixed himself at Paris, and then began writing. With the assistance of a cultivated taste, an extensive reading of the Latin classics, and a good ear, he contrived to introduce a harmony, a precision, and a purity of expression which were before unknown in French prose, and which acquired him the name of the most eloquent writer of his time, and the reformer of the French language. His contemporary, Malherbe, effected a similar improvement in French poetry. They were both the reformers of the taste of the men of letters of their time. (Balzac was a leader of the School of Letters of the French Academy in the beginning of the 17th century. Balzac's merit made him known to the Cardinal de Richelieu, who obtained him a pension of 2000 francs, with the honorary rank of counselor of State. His works, in his own hand, had many errors and alterations, and the most violent among the last was Father Goulou, a monk, who attacked Balzac with bitter invective. Balzac replied with great temper in several pamphlets, bearing the fictitious name of Oiger; but at last, disgusted with these railleries, the cardinal ventured to write to the archbishop of the Charente, near Angoulême. He there continued to write, and to keep up a correspondence with his friends. He died in 1635, and was buried, according to his own directions, in the cemetery of the Hospital of Angoulême, to which institution he left a legacy of 20000 francs. He also left a gift of 2000 francs to the French Academy for the purpose of establishing a prize for eloquence in prose writing. In course of time most of Balzac's works fell into neglect, except his 'Familiar Letters,' which have been repeatedly published. There are some of his other works which do not deserve to be buried in obscurity. His Artiste, ou de la Cour, which he dedicated to Christina, queen of Sweden, is a series of discourses on the duties of authors, ministers of State, and princes; and he has written discourses on ethics, politics, and on moral principles, with references to ancient and modern history, interspersed with some curious anecdotes. It shows much sound judgment and honest principle, and is a book worth reading even now. He also wrote Le Prince, the title of which he probably took from Machiavelli's celebrated work of the same name, with which, however, it has little in common but the title. It is a sort of commentary on the politics and events of his time, and a eulogy of Louis XIII, who is represented as the model of a good king; it contains much invective against that king's enemies, and chiefly against Spain, the old rival of France. It is curious to observe, at this distance of time, and under circumstances so much altered, the mixture of dread and hatred shown by French and Italian writers of the 17th century towards Spain, then the most formidable power in Europe. Balzac compares it to the beast with seven heads and ten horns, which aspire to the dominion of all the world; and he calls the Spaniards brigands of all the lands, and pirates on all the seas. In colours the alpine snows, the golden sun, and the remorseless cruelty of Philip II.; and accuses the Spanish cabinet of still pursuing the same maxims of dark, crooked, and sanguinary policy. There is considerable power and some moral truth in the whole invective. The work is dedicated to Cardinal Richelieu, who, the author observes in his letter of address, will be amused at the vehemence of some of his peroranda, and will enjoy the sight of a philosopher in a passion. The other work of Balzac which deserves mention is Le Serment des Rivaux: discourses on the Christian religion and morality in which the author reproposes fanaticism, hypocrisy, per-
section, as well as a too prying inquisitiveness into the mysteries of faith. But while treating of such serious topics, Balzac does not overlook opportunities of correcting errors and improprieties of language. The word religieux, he says in one place, "is not French; it comes from the same country as the word doctrinaire, and it was no doubt a Gascon preacher who first uttered it from the pulpits of Paris." He censures the use of such appellations as "heretics," "schismatic," "enemies of the Church," applying the terms indiscriminately; "in the time of the Inquisition," calculated to exasperate those whom we ought to endeavour to tame."

A selection of the most important thoughts contained in his works is to be found in the "Socrate Chrétien," which was made by M. Mersan, and published under the title of Pensées de Balzac, 1 vol. 8vo., Paris, 1808. Balzac wrote also Le Barbon, an amusing satire on pedants, which he dedicated to Ménage. He wrote Latin verses, epistles, elegies, &c., which were published in one volume by Ménage after Balzac's death. An edition of Balzac's works in 2 vols. fol. was published by l'Abbé Cassagne. (Dictionnaire de Mortier; Biographie Universelle; and the works of Balzac above quoted.)

BAMBARRA is an extensive country in the interior of Northern Africa, the exact boundaries of which are not known. On the west it extends to 5° W. long., and on the east probably at least to the meridian of Greenwich. The climate of this country is generally dry and great deserts of sand extend from the Sahara, about 16° N. lat., and to the south it extends perhaps to about 9° N. lat. It derives its name from the Bambars, a numerous tribe of negroes, who are the native occupants of this part of Africa.

The northern part of the country is a plain, slightly undulating, and intersected by rivers of considerable size, which in the rainy season overflow their banks, and inundate considerable tracts of land. Along the banks of the principal rivers, the country around the Joliba (a dead flat of ground) extends on both sides, which likewise is annually inundated. A considerable part of this division has been changed into marshes by the annual inundations of the rivers. The western, or less extensive half, is hilly and even rocky, and is covered with numerous grassy meadows; it declives to the north-west, where extensive mountain system which extends between the meridians of Ferro and Greenwich, or even farther eastward, and between 5° and 15° N. lat., and is called Kong Mountains. (See Kong Mountains.)

The climate is various. It is sultry and oppressive in the plains, especially on the boundary of the great desert, but where the country rises into hills the air is at all times comparatively cool. About the middle of June the heat is oppressive, and the day is generally cloudless but at night there is a cold, refreshing wind, accompanied by thunder and rain. Theseusher in the rainy season, which continues till the month of November. During this time the diurnal rains are very heavy, and the prevailing winds are from the south-west. The temperature of the rainy season is very warm, and violent tornadoes, after which the wind shifts to the north-east, and continues to blow from that quarter for the rest of the year. The north-east wind changes the face of the country: the grass soon becomes dry and withered; the rivers subside very rapidly, and many of the trees shed their leaves. About this period the harramett is commonly felt, a dry and parching wind, blowing from the north-east, and accompanied by a thick smoky haze, through which the sun appears of a dull yellow colour. This wind, in passing over the great desert, becomes hot and dry, and parches up every thing exposed to its current. It is, however, reckoned very wholesome, particularly to Europeans, who generally recover their health during its continuance. It raizes chaps in the lips and sore eyes among the natives.

The principal river is the Niger, here called Joliba, or Djoliba, that is, 'the great water,' or 'the great river.' It is not yet exactly known in what part of the Kong Mountains it has its source. (See Niger.) Where the river descends from the mountain-region it forms some cataracts, which intercept the navigation near Bammako, not far from the western boundary of Bamberra. From this point it runs through the hilly country and the plain, commonly between 5° and 15° N. lat., and north-east, and north-east. Numerous villages and some considerable places, as Segoy, Sancaing, Silla, and Jemnse, stand upon this river. Below Segoy the river divides into two branches, which again unite at Lisca, a village situated at a considerate distance below Jemnse. Afterwards it falls into the eastern part of a large lake called D'ebos or D'obo, and issuing from it on the northern side passes to Timbucto. In this tract the river is navigable by thirty to eighty tons burden, and drawing six or seven feet water. No considerable river joins it in its course through Bamberra from the north; but from the south it receives many tributaries, as the Bagoe and the Koroba, of which the latter is navigable by vessels of sixty or eighty tons burden. The mineral riches of Bamberra are little known. The mountainous part probably contains gold, but those treasures of the Kong Mountains in which great quantities of gold are collected lie farther to the west. The forests are immense, and the inhabitants make utensils of the metal, which are exported to the neighbouring nations. Salt is not found, but is imported in large quantities from the Sahara and the coast of Guinea.

A considerable number of crops and elaborates are cultivated, especially rice, maize, millet, yams, cotton, and watermelons; also, French beans, and onions. In the rainy season cabbages, carrots, and turnips are raised. Tobacco is planted in some districts; and in others the indigo plant grows spontaneously. It is remarkable that very few fruits exist, except the pistachio. Among the trees the most remarkable is the butter-tree, called by Park shea-tree, and by Calilé c. From the kernel of this tree an sub-grey butter is extracted, which is a considerable object of agriculture. A few other trees are bamboula, of great size, and tamarind-tree. Ropes are made of Rabicus Cammunis; and the Rhynus Leba bears a fruit of a pleasant taste, rather acid, and of a deep purple colour. The oil of the fruit is employed in making home and soap. The ground-nuts, or ground-nuts, of the north as well as to the south of the Joliba are covered with extensive forests.

The pastures, both in the wooded tracts and in the open plains, being extensive and excellent, the domestic animals are usually well fed. The country is also rich in fowls, and the game is not inferior to that of France. There are considerable numbers of antelopes, and domestic fowls are very common. Dogs are reared and fattened for food. In the rivers there are alligators and turtles, besides fish in great abundance, which afford subsistence to a great number of Pama. Dried fish is a considerable article of commerce. The marshes, which in many parts are of very great extent, are frequented by numerous burning birds, as pelicans, egrets, herons, and ibises; elephants are also found, and other species. A large quantity of honey is collected from bee-hives placed in trees. The termite hills are here as numerous as on the banks of the Senegal; but they are only eighteen inches or two feet in height, unlike on the continent, where they are sometimes from twenty to thirty feet high. The aborigines of Bamberra are a tribe of negroes, from whom the country has received its name. They do not seem to have advanced much in civilization. They resemble the pastoral, but the soil is ill cultivated, and these villages are very dirty. Their food is very bad; they eat all sorts of animals, dogs, cat's, rats, maras, serpents, and birds. Nearly all that they cultivate for the market is a little cotton, which they exchange for salt. They display the vivacity and merriment of the negro, and get intoxicated by the use of a kind of beer or hydromel. Among them two other tribes of negroes have formed establishments, the Mandingoes and the Foulca, who have descended from the Kong Mountains, compose the population of the towns, and are the inhabitants. Having embraced Islamism, they are much more advanced in civilization; and Calilé observes, that in some places public schools are erected, in which reading and writing are taught.

The Mandingoes, who are dispersed over the western part of the great desert, have also established themselves in the towns, especially along the Joliba, where they occupy themselves with trade. Having introduced Islamism, they have obtained the title of mandingo, and possess the greater part of the country, and the Mandingoes and Foulca.

The language of the Bamberrans has a great affinity to that of the Mandingoes, according to Mungo Park, but Calilé states that they have also a peculiar dialect. The
Mandingo and Bambara languages, according to the former, are spoken all over the countries extending from the Senegal river to the town of Janjé on the Niger. Between Janjé and Mungo Park, as is more aptly called Kassouer; but according to Mungo Park, it is called Janjé Kumbo by the negroes, and Kilam Soudan by the Moors.

Bambara carries on a very active commerce, though it is limited to a small number of commodities. Mandingo and Moom tribes export ivory and perhaps still slaves to the European establishments on the Senegal, Gambia, and the western coast of Africa. But this branch is very inconsiderable when compared with that carried on by the Moors established in the towns as permanent residents, to the negro tribes along the Mediterranean. The principal trading places are, from east to west, Janjé, Sansanding, Sego, Yamina, Bammaku, and Bouré. The last, which lies to the southwest of Bamako, is the principal market for gold. Small canoes go from Janjé to this place, and return laden with that metal. Besides gold, the principal articles of exchange are slaves, ivory, and coarse cotton cloth made by the natives: they are exchanged for salt brought from the desert, for tobacco, and iron merchandise. In their way to the northern countries they pass through Timbuctoo, which is the general depot for them. There seems also to exist some trade with the coast of Guinea, from which salt is imported.

Bamako is governed by a multitude of petty independent chiefs, who often go to war with one another. The towns inhabited by the Foulahs, Mandingoes, and Moors, seem to be independent of the sovereigns in whose countries they lie. The district of Kassouer, with but a few acres on the east, is under the jurisdiction of the Senegalese; Ceullic has maps in Mungo Park's and Caullie's travels.

BAMBERG was formerly a principality, which contained above 200,000 inhabitants, and had a revenue of 75,000l.; but at present it forms part of the province of the Upper March, a district attached to the bishopric, formed out of the possessions of the Counts of Babenberg, whose line became extinct in 908; this bishopric was instituted at the commencement of the eleventh century, and existed until 1501, when it was secularized. In Bamberg, the gallery of most of the pictures related to the life and deputation of the Germanic empire, of which a new settlement was then made under the direction of Bonaparte. Fractions of it have been formed into two bailiwicks or jousting-ships (landgerichte), which bear the names of Bamberg and Wurzburg. The former is styled 164 square miles with a population of about 31,000 souls, one town, 43 villages and hamlets. The two bailiwicks are separated by the Regnitz; they are thickly wooded, produce corn, hops, and wine, and near them is a considerable cattle.

BAMBERG, the chief town of the bailiwick of Bamberg II., and the seat of the former prince-bishops, is situated in one of the most fertile and delightful districts in Germany, and stands on the floor of a valley, which here divides into four branches, about three miles above the influx of that river into the Main, about 120 miles north-west of Munich, and 30 west of Baireuth. The three quarters into which the Regnitz divides the town are united by two bridges; the four districts into which they are divided contain about 2000 houses, 13 churches, 15 places of instruction and public charities, and 9 military edifices. The number of inhabitants, including the military, is about 21,000, of whom not less than 3100 are Protestants, and 550 Jews, the remainder being Roman Catholics. Bamberg, one half of which is built in the form of an amphitheatre, on seven elevens, is generally supposed to have been founded by a colony of Saxons, who settled in two parts in the east, and it is embellished by Charlemagne with the church of St. Martin. The four main streets are of handsome breadth and length; the suburb called the 'Steinwag,' and in former days the Nuerstadt, presents the longest line of dwellings, and is divided into the quarters of the town, the seven branches bordering its ramparts, which have been partially raised, are laid out in walks and gardens; the whole place is well paved and lighted. Amongst the buildings may be seen the mechanical crab, the tower, the four towers, rebuilt by Bishop Otto in 1089: it contains fine monuments in memory of the Emperor Henry the Pious, and his virgin consort, Cunigunda, Pope Clement II., and several Bamberg prælates; besides a 'Resurrection

by Tintoretto, which adorns the high altar, and other pieces by Van Dyck, Sandrart, Merian, &c. The high altar, which is in an elaborate Greek style, is so entirely out of character with this splendid edifice, that it has been put into a niche, as a monument for all the world like a clenched fist thrust into a man's eye.' One of the nails from the holy cross, set in diamonds and precious stones, is exhibited in the sacristy; and in a porch adjoining are windows with the arms of the city. The town is bounded by walls; near this fine structure, too, is the old but humble tenement in which Henry the Pious resided. This edifice, as well as the venerable palace close to it, crown St. Peter's Mount; the palace, once an imperial and secular residence, is now the residence of the archbishop, and the basin, and stables, coach-houses, &c. Opposite to these buildings stands the prince-episcopal palace, of three stories, and in the Italian style: it was begun in 1702, but not more than one-half has been completed; there are some frescoes and paintings of much merit in the apartments. The church of St. James is remarkable for its handsome portal, a cupola painted in fresco, and several good altar-pieces, and the Benedictine monastery on St. Michael's Mount, which overlooks the town, has been transformed into an asylum for the reception of aged bourgeois and their wives, while the adjacent provosty is now made an hospital for lunatics. Other religious edifices have changed their uses in like manner: the Carmelite convent, for instance, is used as an institute for the education of the children of St. Stephen is now a Protestant place of worship; and the Franciscan monastery is the seat of local government and justice, and its former yard and grounds have been appropriated to the same uses.

There is no church in Bamberg, however, comparable for grandeur, simplicity, and internal beauty and embellishments, with that of St. Martin, which was erected by the Jesuits between the years 1650 and 1693. The Jesuits' College, attached to it, has a library well furnished with printed books, and containing upwards of 1800 manuscripts written on vellum, belonging to periods between the eighth and sixteenth centuries; close adjoining to it is a cabinet of natural history, particularly rich in conchology and entomology; a botanical garden, in which plants are cultivated for the sake of philosophy, lecture-rooms for divinity and philosophy, &c. The buildings of the Gymnasium are in the same street. The Maxplatz (Maximilian Square), a spacious marketplace, forms a prominent embellishment of the town; and the Erasmian Institute, for education, which stands on one side of it. A Capuchin monastery and the convent of the English Sisters still exist. No place of worship is in such bad repute for cleanliness as the synagoge, in the immediate neighborhood of which is the handsome theatre and its ball-room.

The Geisworth, a winter residence of the late prince-bishops, built on an island formed by the Regnitz, has its basement occupied as a magazine for salt, and its upper story furnished with a public library. The garden also, are, at present laid out in kitchen gardens, and contain a bathing establishment, as well as an open street. On an island united to the upper or western quarter and lower town by a stone bridge, stands the Townhouse for the four bailiwick.

The Infirmary, erected by Bishop Erthal, with its anatomical, surgical, and clinical schools, laboratory, and botanic garden, is another of those institutions of which the Bambergers have reason to be proud. Till the year 1515, there had a university, which was then changed into a Gymnasium Academicum, but this seminary, in 1804, was replaced by a Lyceum, where a complete course of divinity and philosophy is given, and the former medical faculty has been retained. The Lyceum is the seat of the school of theology, and also of a very comprehensive kind, and directed by 8 professors and 3 teachers; this seminary and the Lyceum are at present attended by about 700 pupils, besides between 50 and 100 who receive instruction as professed students. There is an establishment also for educating teachers, in which there are generally about 50 pupils; horticulture is one of the branches of instruction taught. Besides elementary schools for the lower classes, Bamberg possesses a school of mechanics, and a society for 'promoting genuine piety with brotherly love,' founded in 1618, another for aiding the sick and necessitous, and a third for the encouragement of the arts and sciences. The number of libraries and collections, public

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and private, is considerable; among them are the Royal Library, with about 56,000 volumes, and many scarce manuscripts, a chapter library, and three school libraries: the Town Library of Natural History, rich in specimens, and placed under a handsome roof, and the Cabinet of Natural and Experimental Philosophy, attached to the Lyceum; various private collections in the town, among which may we mention Von Stengel's, which contains an almost complete plate of Bavarian ruins; and here we may notice that Bamberg claims the honour of having printed the first German work, namely, Bonner's Fabula, which bears the date of 1461, and of which a copy is extant in the library of the university. Bamberger has an almost unbroken number of printed books from its establishment. Bamberg was the birth-place of Clavius, the mathematician, who was the author of the Gregorian Calendar, and of Joach. Camerarius, the philologist, who died in 1734. Among the numerous corporations in this town is that of the gardeners, which consists of 300 masters, 70 apprentices, and upwards of 500 workmen. The highest prize which it gives—and it is given but once in three years—is for the cultivation of official plants, particularly the liqueurine roof, of which De Laer, in 1686, is annually sent abroad. Very considerable quantities of vegetable seeds are also raised and exported by the Bamberg growers. There are sixty brewers here, whose beer is in much demand in some of the German states. The other manufactures embraced by the corporation are hemp-seed, rice, hemp, hemp-seed, wax, sealing-wax, gold and silver plate, gloves, &c.

Two annual fairs give life to the trade of the town, the situation of which enables it to participate largely in the traffic carried on between the north and south of central Germany. The most notable is the Regnitz fair, in the month of August, which commences at Forheim, about fourteen miles higher up, is however much impeded by mills and water wheels. The environs of Bamberg abound in picturesque situations and inviting attractions for the visitor. 49° 59' N lat., 10° 59' E. long.

BAMBOCCIO, more frequently known by his proper name, Peter de Laer, was born at Laerzen, in Holland, in 1613. His disposition for art manifested itself in early childhood. At the age of eleven, John Cornoviius, who presided over the school, enticed him to leave his studies and afterwards sent him to Rome. De Laer's genius was not of that kind which contains itself with the imitation of established models; he gave little attention to works of ancient art, nor did he enrol himself among the disciples of Michael Angelo, Raphael, or the Carracci. He neglected classical art, which was ill-suited to his temperament, but found a superlative reputation in the freshness, novelty, and animation which characterized his works. He was a good draughtsman, and which he has exhibited with wonderful truth and vivacity. It is not to be inferred, however, that De Laer drew no advantages from his residence at Rome, or that he was wholly insensible to the influences which surrounded him. He lived a life of quiet and retired amusement, and frequently made excursions to the environs of Rome in company with these great artists; and there he found those beautiful studies of ruins, tombs, temples, and aqueducts, with which he so finely embellished his back grounds. It is true that De Laer's imaginative capacity was seldom capable of furnishing principal to those noble accompaniments, of selecting a story, or introducing actors corresponding with the grandeur of the scene; his poetic invention rarely went beyond a metaphor or punning shepherd. It was amid the realities of active life that his genius found its proper subjects. He delighted in, painted, hunting parties, the exploits of banditti, rustic festivals, harvest-homes, and drooleries of all sorts, subjects which the Italians comprise under the general name of Bamboccio, and from which the name given him in Italy was derived, not, as some have asserted, from the deformity of his person. De Laer was profusely skilled in the art of graduating his objects, whether through the medium of lines or colors. His effects of aerial perspective were just; they were thought to have a depth, delicacy, and transparency which has rarely been excelled. It is justly observed by Sandrart that, in the works of painters whose pictures are on a small scale the manner is most beautiful, but in the productions of De Laer they are marked with all the precision, energy, and distinctness which might be expected in the largest performances. His memory was prodigiously extensive, and anything which he had once made up as a fit subject for his pencil he could paint, at any distance of time, with as much facility as if it was still before him.

De Laer's moral qualities entitle him to no less respect than his genius. His person was extremely deformed, but this misfortune did not affect in the slightest degree the natural kindness of his feelings, or the cheerfulness of his temper. His amiable character was well appreciated, and he enjoyed a wide circle of friends, in which his talent, industry, and friendship of the most eminent persons in Rome. He procured his residence in that city to sixteen years, and at length, at the earnest entreaty of his friends in Holland, left it with regret for his native country. He occasionally spent some time in his native country, where he was at Hasselbrak assertion that the rising reputation of Uytenbrouk, who began to distinguish himself about this time, affected De Laer with such jealousy as to injure his health and repair his talents, yet his impatience and his anxiety for the natural generosity of his temper, or with the high estimation in which his works were unquestionably held to the close of his life. It is certain, however, that many circumstances tended to embitter his latter years. He had always been imprudent, and in extreme affluence afflicted with asthma so inappositely severe as to cause habitual fits of despondency, in one of which, it is stated, he threw himself into a canal, and was drowned. This is said to have happened in 1673; but as other authorities state he died in 1671, it is probable that the circumstances of this case have been improperly joined. In 1671, it is possible that the story of his drowning himself is unfounded. De Laer made several admirable etchings from his own designs, which usually bear his signature. The following may be enumerated:

A set of eight plates of animals and rural subjects, inscribed P. de Laer, Rome, 1616; a set of six boxes, same inscription; a blacksmith shoeing a mule, P. de Laer, F., a blacksmith at work, P. de Laer, F.; BAMBOROUGH, or BAMBURGH, an ancient town on the coast of Northumberland. Bede says it was called Bebbur from a queen of that name, and Alfred, translating it as it the king's burgh which men named Bebbanburg. The town was not founded by Alfred, as has been supposed, but began to reign, and was twelve years king of Northumberland, and built Bebbanburgh, which he first inclosed with a hedge, and after with a wall. Though now only a small village, it was once a royal burgh of considerable importance, and the site of a castle which, though well placed, was never able to resist any attack. It is five miles east from Belford and 32 from London. The castle, which is one of the oldest in the kingdom, stands on a perpendicular rock close to the sea, which is the highest point of the coast. The castle is accessible on the south-east side. Some antiquaries are of opinion that the remains of Idas's castle are part of the present structure. Within the keep is an antient draw well, 145 feet deep, and cut through the solid basaltic rock upon which the castle is built. The castle was in modern times; in 1790, when the sand and reeds were cleared out of its vaulted cellar or dungeon. In the reign of Queen Elizabeth, after the memorable Battle of Muscelburgh, Sir John Forsier, warden of the marches, was made governor of Bamborough Castle. Sir John a grandson obtained a grant of it, and also of the manor, from James I. His descendant, Thomas, forfeited both in 1711, but his relative (not uncle) Nathaniel, Lord Crews, Bishop of Durham, purchased, and by his will, dated 1659, and 1720, bequeathed them to charitable purposes. In 1735 the trustees for Bishop Crews's charity commenced the work of repair which was wanted, on the keep or great tower of the castle. The superintendence of these repairs was committed to Mr. Sharpe, one of the trustees, and afterwards Archdeacon of Northumberland, who converted the upper parts of the building into granaries, which are times of scarcity, corn might be sold to the poor at a price above the market rate. He also reserved to himself certain apartments as a residence on certain occasions. These were afterwards let for the repair of the great tower. Much has been done since his time, and it is matter of just satisfaction to see the venerable fortress gradually reclaimed from ruin, and converted into apartments for the most use and honourable purposes. A large room is fitted up for educating boys on
the Madras system. A suite of rooms are also allotted to two mistresses and twenty poor girls, who from their fourth year are lodged, clothed, and educated here till fit for service. Various signals are made use of to warn vessels in the bay and desert of the coast. It is very common, and all kinds of implements useful in saving crews and vessels in distress, are always in readiness, and all means to prevent wrecks from being plundered and for restoring the owners to their property. This care can be judiciously extended to the relief of seamen who may suffer, either by shipwreck or otherwise in navigating this dangerous coast. A constant watch is kept at the top of the tower, whence signals are made to the fishermen of Holy Island, when the weather is such as to render assistance to a wretched vessel necessary. The signals are so regulated as to point out the particular direction in which the vessel lies. Owing to the size and fury of the breakers it is generally impossible for boats to approach from the mainland in a severe storm; but such difficulty occurs but rarely in putting off from Holy Island. In addition to these arrangements for mariners in distress, two men on horseback constantly patrol the coast a distance of eight miles, from sunset to sunrise every stormy night for many years past, under the influence of a duty to forward intelligence to the castle without delay. As a further inducement to this, premiums are often given for the earliest notice of such distress. By these means many vessels have been saved with a few lives instead of being totally lost. If a person is cast away, the castle is informed, and a party of men are immediately sent out with provisions for the wretched persons in the castle for a week, or longer if necessary. The bodies of those who are lost are decently interred at the expense of this charity. There are likewise the necessary instruments and tackle for raising vessels which have been driven ashore. The castle is on the island of Bambouk, and the castle contains an extensive library, an infirmary, and dispensary. In the infirmary, on an average, 1,500 persons are received in the course of a year. In addition to what has been mentioned, the funds of the charity are increased by the annual contributions towards the building and enlarging of churches and foundations and support of schools, exhibitions to young men going to either of the universities, the helping out apprentices, annuities and casual donations to destitute institutions. In 1830 the total income of Lord Crew's estate was £8,384. In 1801 the population of Bambouk was 150; in 1811, 399; in 1821, 345; and in 1831, 475. (Communication from a Correspondent.)

BAMBOUK is a country in Africa, extending between 12° and 14° N. lat., and 8° and 11° W. long. It occupies a part of the declivities with which the extensive system of the Kong Mountains descends towards the northern plain and has a fruitful purpose in modifying it, the whole surface being covered by extensive ranges and intervening valleys; only towards the western boundary, along the river Ba-Fing, the valleys pass into plains of moderate extent. Yet it is not a sterile country. The mountains are covered, as far as the eye can reach, with a vast extent of cultivated land, and the lower parts of the valleys produce maize and rice in abundance. The mines yield silver and iron of excellent quality, and also a great quantity of gold. The French have compared it in this respect, and not without some reason, to the Canadian province of that name. The gold is so abundant that portion of the Kong Mountains which lies to the west of the meridian of Greenwich, is one of the most prosperous parts of the globe; and by far the greatest part of the gold is exported to Europe and Asia from Africa. It is collected in Bambouk, and extends into the countries on the east and south. The principal gold mines of Bambouk are situated to the south of the city of Bambouk, in the mountains of Tamboua; but a greater quantity seems to be found in the Bagam mountains, where the whole of the gold is extracted from the earth. The gold is generally found mixed up in a stream of fine reddish sand, with small black specks therein. The deeper is this stratum, the richer it is in gold. The sand is brought out in baskets, and then washed by the women in calabashes. Higher up the rivers in some places the sand is covered by a thick layer of the same sediment, but small pebbles, among which pieces of native gold are found; these are called assou dorra, ’gold stones,' while the small particles obtained by washing are called assou ko, ’gold washing.'

Part of the gold is converted into ornaments for the women. When a lady of consequence is in full dress, her gold ornaments may be seen from 10 to 12 feet in length. A small quantity is employed by the merchants in defraying their expenses to and from the European establishments on the Senegal and Gambia; but by far the greater part is annually carried away by the Moors, who exchange it at Timbuctoo for the gold which finds its way to the northern coast of Africa, to Egypt, and to Asia. It is exchanged for other commodities, but chiefly for salt, the value of which article is very great in these mountainous countries of Africa. Gasco or salt, as it is called, is imported here in small boxes, 1 foot in length, 6 inches in breadth, and 2 inches in thickness, and sometimes sells for 24 l. sterling; and from 16 l. to 21 l. may be considered as the common price. This salt is brought from the Desert of Sahara. The European merchants, brought from the coast, has till lately been generally paid with slaves.

Among the wild animals of the woods, with which a great part of the country is covered, lions, leopards, and elephants are mentioned; ivory is brought hence to the northern coast.

The Ba-Fing, which traverses the eastern districts of Bambouk and divides it from Brooko, is one of the greatest tributaries of the Senegal; and by Mungo Park, perhaps more than any other river in the interior of Africa, is described. Its name is derived from the alarmed cry of the natives. It runs, according to that traveller, near 15° N. lat., runs in a general direction from south to north, and after uniting with the Gambia, forms a large estuary, called Kite, which is frequently navigated by vessels. The Frenchman, Caillé, does not give so favourable a picture of the river. [See Mandingoos.] (Mungo Park; Ritter's Africa.)

BAMBUSSA, or BAMBOO, a genus of grasses, well known for its great economical importance, but consisting of species which are very imperfectly understood by botanists. It is remarkable in structure, among other things, for having only one style, which is more or less deeply two or three-parted, three minute scales at the base of its ovary, and six stamens.

It is doubtful whether nature has conferred upon the inhabitants of hot countries any boon more valuable than the bamboo, unless it is the coco-nut; to such a multitude of the most useful industrial purposes it is applicable. These are universally pushed forth by a strong, jointed, subterranean, creeping, rootstock, which is the true trunk of the bamboo, the shoots being the branches. The latter are hard externally and coated with flint; in the shoots they are bare, except at the nodes, where strong partitions stretch across the inside, and cut off the interior into a number of closed-up cylinders. In the cavity of these cylinders water is sometimes secreted, or, less commonly, an opaque, white substance, becoming opaque when full grown, a bamboo is a straight rod, bearing a number of stiff branches, which shoot at nearly right angles from the main stem, and are very difficult to conceive by what arrangement such a stem elevates itself through the dense mass of rigid branches which cross each other in every direction. This is, however, contrived by nature in a very simple manner. The young shoot of a bamboo, which is so slender when it is first produced, is a perfectly simple sucker, like a shoot of asparagus, but having a sharp point, and in this state it pierces readily the dense overarching branches; it is only when it has arrived at its full length and has penetrated through all obstacles that it begins to thicken; and when this is done, which are emitted horizontally, readily interpose themselves between the horizontal laterals of the
bamboo stems, among which they grow. In the words of Dr. Roxburgh, the shoots, on their first appearance, resemble a large straight elephant's tusk invested in stout leathery sheaths.

The purposes to which different species of bamboo are adapted are numerous; it would be difficult to point out an object in which strength and elasticity are requisite, and for which lightness is no objection, to which the stems are not adapted in the countries where they grow. The young shoots of some species are edible when boiled, and also the leaves of the young shoots. The full-grown stems, while green, form elegant cases, exalting a perpetual moisture, and capable of transporting fresh flowers for hundreds of miles: when ripe and hard, they are converted into bows, arrows, and quivers, lances, shafts of spears and maunds of chaff, bed posts, walking-sticks, the poles of palanquins, the floors and supports of rustic bridges, and a variety of similar purposes. In a growing state the spiny kinds are formed into stockades, which are impenetrable to any but regular infantry, eaten by artillery. By notchting their sides, the Malayas make wonderfully light scaling-ladders, which can be conveyed with facility where heavier machines could not be transported. Bruised and crushed in water, the leaves and stems form Chinese paper, the finer qualities of which are only improved by a mixture of raw cotton and by more careful pounding. The leaves of a small species are the material used by the Chinese for the lining of their tea-chests. Cut into lengths and the partitions knocked off with a mallet, and then tied with a little cord twine, are made into excellent cases for holding rolls of paper. Slit into strips they afford a most durable material for weaving into mats, baskets, window-blinds, and even the sails of boats. Finally, the green stems are excellently carved by the Chinese into beautiful ornaments. It is, however, more especially for building purposes that the bamboo is important. According to Marsden, in Sumatra the framework of the houses of the natives is chiefly composed of this material. In the flooring, whole stems, four or five inches in diameter, are laid close to each other, and across these laths of split bamboo about an inch wide are fastened down with diambets of the rattan-cane. The sides of the houses are split and rendered flat by splitting or notchling the circular joints on the outside, chipping away the corresponding divisions within, and laying it in the sun to dry, pressed down with weights. Whole bamboos often form the upright timbers, and the houses are generally roofed in with a thatch of narrow split bamboo, six feet long, placed in regular layers, each reaching within two feet of the extremity of that beneath it, by which a treble covering is formed. Another and most ingenious roof is also formed by burying the natives in their tombs. The coffins are so constricted by the side of the grave, that the coffin is covered with the stems and then entirely honed, so that it reaches from the ridge to the eaves, then splitting them entirely in two, knocking out the partitions, and arranging them in close order with the hollow or inner sides uppermost; after which a second layer, with the outer or convex side uppermost, is stacked on the concave, and so each of the convex falls into the two contiguous concave pieces, covering their edges; the latter serving as gutters to carry off the rain that falls upon the upper or convex layer.

Such being the utility of the different species of this plant, we shall give a brief and popular account of all with which botanists are acquainted, in the hope that it may be the means of causing new varieties to be introduced into cultivation. The following list is by no means complete, and seems to be of the more importance, because they generally grow in dry and stony places, where little or nothing of equal utility can be made to thrive. That some of them would grow in the west of Ireland, or the south of Europe, seems more than probable.

In Rees's Cyclopedia, Sir James Smith noticed only four species, under the name of Nastus; Dr. Roxburgh speaks of but six species as known in continental India; Rumphius and Dr. Voss claim seven, by which we have added indications of several more.

They may be conveniently distributed in three sections.

1. Acaulis, bamboo, with the flowers either in spikes or panicles.

1. B. arundinacea, Roxb. Spiny. Leaves very narrow, covered with asperities on the margin and upper surface. (Bambo, in Bengal; Malaka, Veddero, of the Telugus; Musul, or Memdl, of the Tamulis; Buda Jana, in Ambayna.)—Common in rich, moist soil, among the mountains of India. The stems grow in clusters, from 10 to 100, from the same root-stock, and are straight for 15 or 20 feet. When cut, it is easily divided into leaves, and as the entire surface of every ramification is covered with blossoms, the whole tree seems one entire immense panicle. Its seeds are used as rice. Tababaser is found in its joints.

2. B. stricta, Roxb. Somewhat spiny. Flowers in erect panicles, commonly composed of stems of different orders. Said to be a smaller species than the last: it grows in a dry situation, has a much smaller cavity, and is very straight. Its great strength, solidity, and straightness, render it much fitter for many uses. From this the shafts of lances are made in India, and it is considered a child's arm.

3. B. vulgaris, Wendl. Not spiny; leaves very narrow, covered at the edge and on the upper surface with asperities. —Found in the East Indies, whence it is thought to have been carried on vessels to India, and from there to last more than thirty feet long, and as thick as a child's arm.

4. B. amputata, Roxb. Strongly armed with both simple and compound spines; leaves very narrow, rarely more than six inches long. (Behor bamb in Bengal.)—Common about Calcutta, and in the south of India, forming an impenetrable jungle; also often cultivated round Indian villages. It has a smaller hollow than most of the others, and is consequently stronger than many of them. Dr. Roxburgh describes it as rising in such dense tufts as to appear like a great bamboo trunk. The stems are nearly round, the branches so bound together that it is a most arborescent trunk, to cut down an old clump of them. The stems are from thirty to fifty feet long.

5. B. Tuleria, Bentham and Hooker. Not spiny; leaves broad, rounded or heart-shaped at the base. (Tulda bamb in Bengal; Paka bamb of the Hindus.)—Common all over Bengal; its growth is so rapid that the stems, which are sometimes as much as seventy feet long and twelve inches in circumference, rise to their full height in about thirty days: before their lateral shoots are formed, they are described as resembling fishing-rods of immense size. The young thicket shoots, when about two feet high, are tender, and form an excellent poulie. It is chiefly used for scaffolding, and for covering the houses of natives; it is said to last much longer if steeped in water some time before being used. Of this species Dr. Roxburgh mentions several varieties. Java bamb is a larger variety, with longer and thicker jamiu; Bambino bamb has a larger stem, and larger baskets. Barkoo bamb is of a small size, very seared and strong, much bent to one side, and armed with numerous strong thorns. A staff of it must be placed in the hand of every young Brahmin when invested with the sacred bow.

6. B. Balcoo, Roxb. Not spiny; leaves narrow, heart-shaped at the base. (Baloo bamb in Bengal.)—A native of Bengal and more even more gigantic than the last. It is sought by the workers in bamboo the very first for building purposes, and especially being used in India, in water for a considerable time. Two varieties are distinguished: Dhooho balcoo, the larger, and Balcoo bamb, which is smaller and stronger, with a less cavity.

7. B. Blumeana, Schultes. Armed with triple recurved spines; leaves very narrow, quite smooth, suddenly tapering into a short stalk. (Hammer (jihud), or Bambu duru, in Java.)—A native of Java. Stems about as thick as a child's arm.

8. B. agraevia, Poir. Stems crooked at the lower part very spiny; leaves long and entire, the green stems being used for some of the hedges of the Bara-banda and Treba teba in Ambayna.)—On mountains, and in dry and desert places in all China and Corea China; common, also, in various islands in the Malay Archipelago. It is crooked, sometimes creeping stems, and rugged aspect, distinguishing it. The trunks are not more than (we presume near the base) a foot and a half long, and often nearly solid.

9. B. Thamaves, Kunth. Stems very much branched. Found wild in Madagaser, where, however, it is not believed to be indigenous.

10. B. muta, Poir. Stems perfectly unarmed; leaves very narrow, and clasping the stems at their base—Cultivated in the fields and hedges of Corea China, and found also in Ambayna, where several distinct species grow. Its stems grow thirty feet long, and are said by Ramus to be the strongest of all the species, although its sides are thin. It is sometimes as thick as a man's leg.
21. B. cernulata, Wild. Leaf-sheaths covered with shining hairs, and the whitish bases of the stems very high, and when full-grown of a pale color, which becomes nearly white in drying. The hairs of the leaves occasion such itching, that this kind is troublesome to collect. It is the Lead-bamboo of Rumphius, who says the edges of its leaves are so sharp as to wound the gatherers. In Ambonya.

22. a. nana. Leaf-stalks covered with shining hairs. Stems black and shining. — Very like the last, and found also in Ambonya. It chiefly differs in the colour of the stems, which are much smaller; the whitish bases of the stems very high, and when full-grown of a pale color, which becomes nearly white in drying. The hairs of the leaves occasion such itching, that this kind is troublesome to collect. It is the Lead-bamboo of Rumphius, who says the edges of its leaves are so sharp as to wound the gatherers. In Ambonya.

23. nana. Leaves very large, stiff, and broad, extremely hispid with shining hairs. — The most common in Ambonya, forming large wools, which come down to the coast; it flourishes equally in dry and moist situations, and is found from the eastern part of the island by its very large leaves, which are as much as eighteen inches long and three or four inches broad.
University of Oxford, between the commencement of the last month in Lent Term and the end of the third week in Act Term, at St. Mary's Church. This lecture was founded in pursuance of the will of the Rev. John Bampton, canon-rector of the cathedral of Salisbury, who ordered that the lectures should be delivered, upon the first and last Wednesdays of each Lent Term, and that the same person should lecture twice. The sermons were to be upon some one or other of the following subjects: 'to confirm and establish the Christian faith, and to confute all heresies and schismatics; upon the divine authority of the Holy Scriptures; upon the reverence due to the persons and titles of our Lord and Saviour Jesus Christ; upon the divinity of the Holy Ghost.' The sermons were to be printed within two months after they were preached; one copy to be given to the Chancellor of the University, one to the head of every college, one to the Mayor of the city of Oxford, and one copy to be put into the Bodleian Library; and the expense of printing them was to be paid out of the revenue of the lands or estates given for establishing the lecture; the preacher not to be paid, nor to be entitled to the revenue, before they are printed.

The names and dates of the successive preachers from 1760, when the series was begun, will be found in the Oxford University Calendar. The greater part of the sermons preached have been published, but in a few cases they have been published only in accordance with the limit already expressed from the founder's will, and are rarely met with. Among the names of the preachers, those of Joseph White, D.D., Edward Thatham, D.D., George Stanley, D.D., Dr. E. Faber, M.A., William Van der Meulen, D.D., and Reginald Hooper, M.A., are perhaps the most eminent.

The clear income of Mr. Bampton's estate, in 1760, amounted to $30, per annum.

Bampton's words are found in many of the modern languages of Europe in various senses. But as the idea of 'publication' or 'proclamation' runs through them all, it is probable that the antient word now still preserved in the Gaelic and the modern Welsh in the sense of 'proclaiming,' as a part of the common speech of the English nation, the word is now so rarely used that it is put into some glossaries of provincial or archaic words, as if it were obsolete, or confined to some particular districts or particular classes. Yet, though the word now be as obsolete and as rare, it is found in some of our best writers; among the poets, Spenser, Marlowe, and Shakespeare; and among prose-writers, Knolles and Hooker. By these writers, however, it is not used in its original sense of 'proclamation,' but in a sense more or less confined to a particular kind; and it is in this secondary sense only that it now occurs in common language, to denote cursing, denouncing woe and mischief against one who has offended. A single quotation from Shakespeare's tale of 'Faustus' and 'Adonis' will show precisely how it is used by writers who have employed it, and by the people from whose lips it may still sometimes be heard:

All reader with shedding down Adonis's lea,

Having the loudest and very loud

The improvement of English manners having done away the practice, the word has nearly disappeared. But in the middle ages the practice was common enough, by such high authorities as have been cited at its having prevailed in the more ordinary ranks and affairs of life.

When churches and monasteries were founded, writings were usually drawn up, specifying what lands the foundation should be beneficed, and what lands within the bounds of the church or monastery; in the middle ages, these instruments often conclude with imperemptory sentences in which terrors and threats are invoked on any one who should attempt to divert the lands from the purposes for which they were bestowed. It seems that what was written was not only intended to regulate the manners of the people in the face of the church and the world by the donors, with certain accompanying ceremonies. Matthew Paris, a monk of St. Alban's, who has left one of the best of the early chronicles of English affairs, relates that when King Henry III. had refounded the church of Westminster, he went into the chapel of St. Catherine, where a large assembly of prelates and nobles was collected to receive him. The prelates were dressed in full pontificals, and each had a candle in his hand. The king advanced to the altar, and laying his hand on the Holy Eucharist, pronounced a sentence of excommunication against all who should deprive the church of anything which he had given it, or of the performance of its rights and privileges. And he cast down the candles which they held, and while they lay upon the pavement, smoking and stinking (we use the words of the author who relates the transaction), the Archbishop of Canterbury said aloud: 'Thus may the condemned soul of the unfortunate man who interprets these magical words, by extinguishing them, be burned when all present, but the king especially, shouted out 'Amen, Amen.'

Thus, in the English phrase, was the burning of the middle ages. Nor was it confined to ecclesiastical affairs. King Henry III., in the ninth year of his reign, renewed the grant of Magna Charta. In the course of the struggle which was going on in the former half of the thirteenth century between the king and the barons, other similar documents were granted. But for the preservation of that by which the barons knew was only extorted, the strongest guarantees were required; and the king was induced to precede at a great assembly of nobles and prelates, when the archbishop pronounced a sentence of excommunication against any one of whatever degree who should violate the charters. This was done in Westminster Hall on the third day of May, 1253. The transaction was made matter of public record, and is preserved in the first collection of national documents called Rymer's Foedera.

But besides these general burning, particular persons who escaped from justice or who opposed themselves to the venture of the church, were sometimes burned or placed under a ban. In the middle ages, burning was used against the heretics, and the most remarkable instances of this kind is the case of Guido de Montfort. This Guido was the son of Simon de Montfort, earl of Leicester, and grandson of King John. In the troubles in England, in which his father took a part, he had been more active in the kingdom than in the house of Almaine; another grandson of King John, and the eldest son of Richard, that king's younger son, who had been elected King of the Almaine. This young prince being at Verona in Italy, a place at a religious service in one of the churches of that city, was suddenly detected and seized by Guido de Montfort, and slain upon the spot. A general devastation of the city was felt throughout Europe. Dante has placed the murderer in the Inferno:

He in God's house came:

The heart still remembered on the banks of Thessalon.

The murderer escaped. Among the rumours of the time, it is told that he was wandering in Norway. This man the pope placed under a ban; that is, he required that no person should protect, counsel, or assist him; that no person should hold any intercourse with him of any kind, except perhaps, some little might be allowed for the good of his soul; that all who harboured him should be put under an interdict; and that if any person was bound to him by any oath of fidelity, he was absolved from the oath. This was proclaimed throughout Europe. A papal bull in which the excommunication is set forth still exists among the papal archives. A chapter has been added, at Westminster, of a copy of it in Rymer's Foedera. The pope uses the very expression forbannings. Guido nem estiam forbannus.

It is manifest that out of this use of the word has sprung that popular sense in which now only the word is ever used among us, as well as the Italian bandita, French bandit, and the English robber, and petty thief, or vagabond.

In some parts of England, before the Reformation, an inferior species of burning was practised by the parish priests. In the Marches of Wales, says Tindal in his work against
the Roman Church, entitled The Obedience of a Chresten Man, 1334, it is the manner, if any man have an ox or a cow stolen, he cometh to the curate and desirith him to curse the stealer; and he commands the parish to give him, every man, God a curse, and his,' God a curse and mine have he, saith the man. But in this man, Stow or Importance, in 1299, the dean of St. Paul's accused at Paul's Cross all those who had searched in the church of St. Martin in the Fields for a hoard of gold. (London, p. 333.) Tyndal argues against the curé, and the dean does not speak of communicativeness in general. Yet something like it is seen in Stow, who still retained in the Commission Service of the English Church.

In France the popular language has not been influenced by the obliteration of the word ban to the same extent as the English. With them the idea of publication prevails over that of denunciation, and they call the public crier by which men are called to a sale of merchandise, especially when it is done by beat of drum, a ban. In time of war a proclamation through the ranks of an army is the ban. In Arras and some parts of Picardy the public bell is called the ban-tuque, or the cloche à ban, as being rung to summon people to their assemblies. When those who held of the ban summoned to attend him in his wars, they were the ban, and were said to hold of the precept of the ban; and out of this feudal use of the term arose the expressions four à ban, and mounin à ban, for a lord's abbot-house, or a lord's mill, at which the tenants of a manor (as is usually the case of English) bound their bread, or to grind their corn. The banlieue of a city is a district around it, usually, but not always, a league on all sides, through which the proclamation of the principal judge of the place has authority. A person submitting to the ban is said to be under ban, and he who returns home without a recall breaks his ban.

The French use the word as the English do, when they speak of the ban, or, as we speak and write it, the bonne of marriage. This is the public proclamation which the law requires of the publication of the marriage contract and the marriage covenant. The law of the ancient French and of the English church is in this respect the same. The proclamation must be made on three successive Sundays at the church, during the time of the celebration of public worship, when it is presumed that the whole parish is present.

The intent of this provision is two-fold: 1. To prevent clandestine marriages, and marriages between parties not free from the marriage contract, parties within the prohibited degrees of kindred, minors, or excommunicates; and, 2. to save the contracting parties from precipitancy, by which provision are compelled to suffer some weeks to pass between the consent privately given and received between themselves and the publication of the marriage contract, which ought to be secured by law. The ban, or bonne, may, however, be dispensed with. In that case a license is obtained from some person who is authorized by the bishop of a diocese to grant it, by which license the parties are allowed to marry in the church or chapel of the parish or parochial chapel in which either of them resides, in which marriages are to be celebrated, without the publication of a bonne. The law, however, takes care to ensure the objects for which the publication of a bonne was devised, by requiring oaths to be taken by the party applying for the license, and certificates of consent of parents or guardians in the case of minors. Special license not only dispense with the publication of a bonne, but allow the parties to marry at any time, and on any place, the manor, or any place where the Archbishop of Canterbury is in virture of a statute made in the twenty-fifth year of King Henry VIII., entitled an act concerning Peter-Pence and dispensations.

It is not known when this practice began, but it is understood that the conception of a bonne is included in a passage of Tertullian. Among the innovations introduced in France during the time of the first Revolution, one was to substitute for this oral publication a written notice (a bonne du temps) to be posted at the door of the town-hall, or in some public place, during a certain time. But when it is considered how liable these bills are to be torn down or defaced, and the questions which may arise in consequence, it would seem that it is not a mode which has so long been established in Christian nations.

BAN, BANUS, or BANNUS, derived from the Sclavonian ban, a chief, is the name given to the governor of certain military districts in the kingdom of Hungary, in Belonia, and Croatia, who is the representative of the sovereign, and in virtue of his office, takes the command for the defence of those districts in time of war. A district over which the ban governs is called the Banate or Banat. There are two of these banates in Hungary. The one, lying between 40° 10' and 45° 15' N. lat, and 20° and 22° 32' E. long, is called the Hungarian Banate, which comprehends the three south-eastern circles of Transyl-

BANUS, GRANMAN, and GRANMAN, is a part of the Austrian military frontiers, which is situated in that sub-division of them called the Croatian Frontier, between 45° and 45° 30' N. lat, and 15° 30' and 16° 30' E. long. It consists of two circuits, the One, and the Two Regiments, which lie on the southern bank of the Save, and extend between that river, the Kulpa, and the Unna; the confluence of the last river with the Save forms their most easterly point. They occupy an area of 10053 square miles, and have about 11,000 families, or 54,000 souls, and contain 543 towns and villages. The staff of the first Banal has its head-quarters at Liina, on the river of that name; and that of the second, at Petrinia and Costainia, the former a large and delightfully-situated town on the Kulpa. The majority of the inhabitants are Greeks, consisting of about 40,000 adherents of the Greek and 86,000 of the Armenian persuasion. The face of the country presents a succession of gentle undulations and spacious plains: the former are cultivated the Petra-Gora and Zinranges. The Kulpa forms its northern, the Save its north-eastern, and the Unna its south-eastern boundaries. The country contains several morasses; the extent of surface turned to account is about 361,000 acres, of which 204,000 consist of meadows, and nearly 300,000 acres are cultivated as vineyards, and produce about 1,30,000 gallons of wine. The pasture-lands occupy about 15,000 acres, which support about 6000 horses, and considerable numbers of cattle, sheep, and swine. Iron is raised in small quantities; but mechanical industry is represented as being yet in infancy. Some trade with Turkey is carried on through Costainia and Radahanita, in the first Banal Regiment.

The Banal Frontier was formed in the course of the year 1696, during the reign of the Emperor Leopold I.

BANANA. [See Mus.]

BANBURY, an ancient borough and market-town, situated on the west side of the river Cherwell, near the southern extremity of the county of Oxford. The limits of the oil producing districts, as now granted by the Government, comprises also the township of Thrupp, with its hamlets of Calthorpe, Wickham, Hardwick, and Eastington, all situated in the hundred of Banbury and county of Oxford; and the hamlets of Grimsbury and Nethercot on the river Cherwell, in the hundred of the County of Northampton. All these members of the parish have been added to the parliamentary borough by the Reform Act. Banbury is sixty-four miles N.W. of London, N. of Stamford, and is on the main road to the City of London. The name of the place, according to Camden, was Banesby: it stands in Domescy-book Banesby. The name has led to the supposition that the great battle between the West Saxons and the Danes, A.D. 558, at Banbury, but to this claim to be the site of the same event. Roman coins were frequently found at Banbury before the time of Cam-
den; and a Roman altar, discovered long ago, was preserved under an arch in the street, near the present Old Book Inn. In old writings the George and Altar Stone Inn. This building was standing within the memory of a few persons now living, and is described as a piece of stone-work eight feet long, supporting an arch above which was inscribednr. "Roma Relic." These circumstances led Dr. Stukeley and others to place the Roman station, Brinwarv, at Banbury; but that station was on the Portway, which led from Astley Castle (Alcester, near Banbury) to Isambardatta (Bunting Walton), and the line of this road has been recently clearly traced by Mr. Baker about three miles to the eastward of Banbury. Brinwarv is therefore placed with great probability at Black Grounds, near Chipping Warden, at the southern extremity of the district, which has been hitherto undiscovered, not only at Banbury, but at several places in the vicinity.

In the year 1123, or soon after, this town was strengthened with a castle, erected by Alexander, the famous Bishop of Lincoln, to whom the manor belonged. In 1139 this prelate, being taken prisoner by King Stephen at Oxford, was compelled to resign Banbury and some other fiefs; but it was shortly afterwards restored to the see, and is frequently mentioned as the occasional residence of the bishops. In the year 1469, a battle was fought at Dunesmore, near Banbury, between the forces of Edward IV., under the Earl of Pembroke, and a great body of insurgents from the north of England, under the standard of the king's brother-in-law, the Earl of Warwick. After the battle, a quarrel took place at Banbury between the Earl of Pembroke and another nobleman, Lord Stafford, who held a high command in the royal forces. The latter lord proceeded with the town with his numerous archers, and the Earl of Pembroke, weakened in his resources, was defeated the next day with immense loss, and he and his brother, with ten other gentlemen, being taken prisoners, were beheaded at Banbury. In the first year of Edward V., Bishop Edward de Bideford resigned the manor, &c., of Banbury to the crown. Queen Elizabeth granted the castle to the Saye and Selee family, who resided at their neighbouring castellated mansion at Boughton. In the same reign, Banbury Cross, so celebrated in nursery rhymes, was destroyed by the puritans, who then formed a predominant party at Banbury. The zeal of the inhabitants in the cause of the commonwealth has been often mentioned; but although the castle was defended by 600 infantry and a troop of horse, it surrendered a few days after the battle of Edgehill, in 1643. Being garrisoned by the king, it afterwards stood several attacks, including two desperate sieges in 1644 and 1646. On the former occasion it resisted every attack for fourteen weeks, when, at length it was compelled to surrender, which was not before the garrison had been reduced to the necessity of eating their horses, of which only two remained. On the other occasion the castle was besieged by the famous Colonel Wilmot, a very brave and able general. There was a very considerable number of horsemen, but, owing to the unequal conditions after Charles I. had surrendered himself to the Scottish army. For this service Colonel Whalley was rewarded by the parliament. Not many years after this the castle was taken down by the parliament, to prevent its again becoming a stronghold, and to erect it in a puritan district. Nothing now remains of it except the name, and small portions of the moat and of one of the walls, upon which last a cottage has been erected. The rest of the area is now a playing ground.

Banbury was a borough by prescription; but in the first year of Queen Mary a charter was conferred, as a reward for the services of the inhabitants against John, Duke of Northumberland, who maintained the claims of Lady Jane Grey. James I. confirmed and extended the charter; and a new one was granted by George I., which vested the municipal government in a high steward, recorder, twelve aldermen, six capital burgesses, and thirty assistants, with the power of electing the mayor, who was filled up by the twelve aldermen and six capital burgesses in common with the council assembled, except in the case of the mayor, in the election of whom the voices of the assistants were also to be taken. There is no evidence of the return of a member of parliament, and the elections of the mayor have been since that time one member has been returned. For a long time, if not during the whole of this period, the member appears to have been returned by the select body of the corporation, namely, the mayor, the twelve aldermen, and the six capital burgesses only. The names of Sir Francis Walsingham, Nathaniel Fennes, and Lord North, appear on the list of members for Banbury. The influence of the North family, who resided in the immediate neighbourhood of Banbury, long prevails. It is by no means placed under the influence of the North family, but has been relatively to a non-conformist, which practically amounted to a non-conformity, was abolished. The number of electors on the register completed in 1834 is 370. Banbury has been long noted as a thriving place of trade and was so recorded by Leland in the reign of Henry VIII. This is chiefly owing to its being the centre of that district of rich red land which Arthur Young describes as the glory of the county of Oxford, and as some of the most fertile in the kingdom. The Otmoor and the surrounding country, both by local products and by the manufacture of plums, shag, and girth and other webbings, carried on at Banbury, which employs within the parish 125 men, besides women and children, in some branches of the manufacture; and many others are engaged in the same manufacture in some of the adjacent villages. A manufacture of linen-weaving formerly carried on at Banbury has been abandoned. The weekly market, which is on Thursday, is considered to be the best within many miles round. There are nine chartered fairs and two annual gatherings, one of which is held as early in the year as from before the time of Fuller, and are still in high repute.

Banbury cheese, which Shakespeare mentions, no longer made.

Banbury is situated in a valley almost entirely surrounded with rising ground; most of the streets are very wide and airy. Several of the principal streets run in a line from north to south, and another line, running from west to east, crosses the former one. There were formerly bars or mullions along these streets, but these have now vanished. This town was, in the time of King John, the most celebrated market town in the county. The town is well watered with Yorkshire streams, and the town is an animated centre for the manufacture of goods and the sale of produce. The town-hall is a mean and insufficient meeting building; the town gaol, on the contrary, is an old and rather a handsome one, in which the daha service has been recently erected. The old church, dedicated to St. Mary, and said to have been erected by Alexander, Bishop of Lincoln, was taken down by Act of Parliament in 1770, and the ancient monuments wholly destroyed. But the parish church still remains a fine building. In addition to the sums arising from the sale of the church lands and houses, and the materials of the old fabric, together with two large subscriptions, an annual rent of £500, and a bequest of £5,000, a large proportion of the debt being still unacknowledged, the same rate is likely to remain for some time. The present church is spacious, the part used for divine service being 90 feet square within, and capable of accommodating 2300 persons. There are in Banbury meeting-houses belonging to the Presbyterians, Friends, Independents, Wesleyan Methodists, and Calvinists. Formerly an hospital, dedicated to St. John, stood near the southern entrance to the town; the remains of this building were long used as a barn, but has latterly become a private residence. Another hospital, dedicated to St. Leonard, stood on the east side of the Cherwell, in the hamlet of Nethercot; and there was in Banbury a religious foundation, called St. Mary's, the present church, which are not well known. In a field adjacent to the southern entrance to the town is an old brick work, or manufactures, called the Bear Garden, where the ancient English sports were practised.

Banbury Blue Coat School was established in 1705, for boys and girls. In 1817 it was incorporated with the newly-established national schools for boys and girls, but the funds are kept separately, and are partly applied to the support of the dissenters' schools, namely, sixteen boys and twelve girls. Including these, the national schools at Banbury now educate about 170 boys and 73 girls, besides occasional scholars on Sundays.
The Dissenters have several large and efficient Sunday and evening schools at their respective chapels; and altogether the different schools afford instruction to nearly 800 children. There are besides in the town excellent charitable institutions, a savings' bank, a subscription library, and other useful and benevolent institutions. The excellent old grammar-school kept in a building adjoining the churchyard was suffered to fall into disuse a long time ago. The building was afterwards used in the town for the corporation, who let it for 4½ years, and apply that amount towards the support of the national schools. Of land or other endowment from which funds were supplied for the support of the national schools there is nothing to be found.

The population of the old borough has been on increasing in the following manner:—in 1801, 2755; in 1811, 2941; in 1821, 3396; and in 1831, 3737. But these numbers do not give the population of the connected town, which includes many of the hamlets in the hamlets. The population of the parish was, in 1821, 3873; and in 1831, 4222.

The criminal jurisdiction of the borough extends to capital offenses, but no instance of an execution has occurred since 1747. The magistrate holds a petty session every Monday; and general sessions, at which the recorder or his deputy must preside, are held twice in every year. The corporation have the privilege of holding a court of record, in which all manner of pleas, wherein the debt or damages do not exceed 200 guineas, can be tried. About 100 years ago the old borough, and all the hamlets, jointly support the church, there are three separate districts for the maintenance of the poor: viz., the borough of Banbury; the township and parishes of Northrop, &c., in Oxfordshire; and the two Northamptonshire parishes, which are connected with the town. The parish church is a dischared vicarage, in the patronage of the Bishop of Oxford; but the endowment is so poor, that a subscription has been made to increase it. The ecclesiastical jurisdiction of the parish is a peculiar one, belonging to the cathedral of Lincoln.

Banbury, like many other towns, has many important events connected with our English annals, no local or country writer has yet taken the pains to publish its history. (From a Correspondent at Banbury.)

The Bay of Bengal, in the Indian Ocean lying off the north coast of Sumatra, near to its eastern extremity, from which it is separated by the Straits of Banca. The island measures in its greatest length from N.W. to S.E. 135 miles, and in its breadth part 65 miles; the mean breadth is 55 miles, including the two sides between 10° 30' and 3° 30' S. lat., and between 105° 9' and 106° 31' E. long.

Banca had always formed a dependency of the sultans of Palembang, in Sumatra, but in 1812 it was formally ceded to the government of the British East India Company. On the 2d of December, 1816, the island was made over to the government of the king of the Netherlands, in exchange for the settlement of Cochín on the Malabar coast.

This island does not contain any continued number of mountains, but in every part are found short ranges of lofty hills and mountains of considerable height. The island has an average height at the bottom of Klaban Bay, a considerable inlet on the north side. The height of this mountain, which is called Goomong Mara, is estimated at 3000 feet above the level of the sea. Manquin Hill, called by the natives Goomong Marabang, is on the western extremity of the island, has been found by measurement to be 1500 feet from the level of the sea, and forms an excellent landmark to navigators for the entrance to the straits. Manquin Hill was under the sovereignty of the king of Palembang, the administrators of the mines were bound to deliver to him all the tin produced, at the rate of five dollars per cwt. of 125 pounds, which quantity was sold by him to the Dutch resident for five dollars and a half per cwt. The British authorities at Batavia, in this way to receive from 20,000 to 30,000 peecles annually. The Dutch were accustomed to keep vessels continually cruising along the shore to prevent the smuggling of tin; but the temptation to this trade was too great, and it was practiced by both private and public adventurers at all times participated largely in the trade. A small part of the tin, procured in the way described, by the Dutch East India Company, was sent larger rivers, are navigable for any but very small vessels, in consequence of the sand-banks by which their entrances are obstructed.

Klabat Bay, which would otherwise form an excellent harbour for ships, and would afford means of access to some distance inland from the north coast, cannot be used for these purposes in consequence of the numerous rocks and shallows which occur in every part. It is a doubt owing to the dredge of pirates, from whose ravages the islands have been wrested, and on the west coast of Borneo. The principal settlement, which is not a town, that can be called a town on the island, is near the western entrance of the Straits of Banca: it stands on the coast of a small river which takes its rise from Manquin Hill. The cession of the island to the English, this town was called Mintok; which name was on that occasion changed to Minto, in compliment to the then governor-general of India. This town was originally peopled by Lingas and a few chiefs, and the adjacent islands; the principal object of the settlers is to carry on trade in the interior. A few months after the cession of Banca to the East India Company, a census was taken of the population of Minto, which was then found to contain (exclusive of Europeans) 879 persons, of whom 1259 were Chinese, 1200 Malays, and 1210 slaves. Shortly before the transfer of the island to the Dutch another census was taken, when the numbers were found to have increased to 1553: of whom 266 were Chinese, 1563 were Malays, and 126 only were slaves. This rapid increase of population was expected for many years, and the security offered by the European government, but was also in some part occasioned by a regulation made for the prevention of smuggling, which confined the foreign trade of the island to this the principal port. Banca derives its importance, in a commercial point of view, from its tin-mines, which were first discovered in 1710 or 1711, and have since yielded immense quantities of ore: they appear, in fact, to be inexhaustible. The geological formation of the island and the strata on its west half, the principal mountains being granite, and those of inferior elevation being formed of red iron-stone: it is in the level ground between these rocks that the tin is generally found in alluvial deposits, seldom lower than twenty-five feet from the surface. Only a small part, comparatively, in the north-west quarter, has yet been surveyed with a view to the opening of mines; but the existence of tin has been ascertained in all the alluvial tracts, from one extremity of the island to the other.

The ore is of the highest grade, and in horizontal strata in the form of an oxide, and is generally intermixed with white sand and clay. After being washed in the nearest mountain-stream it is smelted, and yields in various proportions from thirty to seventy pounds of tin for every hundred pounds of ore; the more usual proportion is about sixty of metal to one hundred of ore. If the ore should yield less than twenty-five per cent of metal, the mine is abandoned as unprofitable. The proportion of metal partly depends upon the quality of the charcoal used in smelting.

From the time of their first discovery, the tin-mines of Banca have been worked by Chinese, whose number have been annually recruited. The vacancies occasioned by casual deaths or deaths, or by the return of any of the Chinese, is usually supplied by the foreign convict industry, and the Chinese are always kept well and industrious. The different processes of the mine are under the direction of the Dutch resident, who employs Chinese and native foremen. The Chinese are left to their own management, and are hired by the day for the trouble of working in the mines and on the coast. The Chinese are now the only inhabitants of the island, and the natives are kept employed only in the fields. The Chinese are industrious and attentive, and are not inclined to the gambling which prevails in Sumatra. The Chinese are now the principal occupation of the island. The Dutch are accustomed to keep vessels continually cruising along the shore to prevent the smuggling of tin; but the temptation to this trade was too great, and it was practiced by both private and public adventurers at all times participated largely in the trade. A small part of the tin, procured in the way described, by the Dutch East India Company, was sent
to Ho and; but the great bulk of their purchase was sent to China, where Banca tin is preferred to that of Europe.

The collections of tin, made subsequently to the cession of the island to the East Indus Company, were—

<table>
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<tr>
<th>Year</th>
<th>Pounds Sterling</th>
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<tr>
<td>1813</td>
<td>7,299</td>
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<tr>
<td>1814</td>
<td>19,149</td>
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<tr>
<td>1815</td>
<td>25,190</td>
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being an average of somewhat less than three millions of pounds annually. The profit derived from the sale of tin in those years more than provided for all the charges of government on the island; and, in fact, left a surplus, or rather a balance of Banca, sterling per annum. Since the transfer of the island to Holland, the supply of tin from its mines has been greatly augmented; and after supplying the markets of China and India, a large quantity is annually brought to Europe, where it has consequently lessened the demand for the tin of Cornwall.

Except during the four months, from May to August inclusive, when the south-east monsoon blows, rains are very frequent on the island, especially from November to February inclusive, which is the season of the north-west monsoon. In the other four months of the year, the weather is unsettled and squally. Thunderstorms are frequent, and lightning is observable on half the evenings during the year.

Bancroft is generally healthy; but some spots are of a different character. When the English first took possession of the island, an attempt was made to form a settlement at Tanjong Kalseang; a beautiful and desirable spot on the western point, and only three miles from Mintos; but, in 1854, the emigration to the island was abandoned. The intention was necessarily abandoned. In the interior parts, the action of the sun upon the gravelly soil renders the heat oppressive during the day, but the nights are usually cool. The thermometer varies from 76° to 94°; and scarcely ever exceeds 85° in the shade.

There are various kinds of fine timber in the woods, some of which are employed in building. Ebony is abundant on the north coast. Large quantities of this wood are sent to Palembang for sale to Chinese traders.

The only quadrupeds found in a state of nature are deer and wild hogs; and these are not numerous. Insects are very numerous, and there is an abundance of snakes; some of these are small and venomous. Fish and pork are plentiful. Banca is a hilly island, and some fruits are conveyed from the opposite coast of Sumatra. Some rice is grown in the interior, but not sufficient for the island consumption; and large quantities are imported every year by the government.

The population of Banca is made up of Malay, Chinese, and indigenous islanders. By a census taken when under the British flag, the total number of inhabitants, exclusive of the few Europeans connected with the government, was 13,419.

2711 were Malays, of all ages and both sexes.

4561 Chinese.

6031 native islanders, called Orang Goonoong.

Almost all the laborious occupations are performed by the Chinese; the Malays being extremely indolent, and the Orang Goonoong living dispersed over large tracts of country in the interior, nearly in a state of nature, and not subject to any delay.

(See Marsden's Sumatra; Raffles' Java; Stavrinus' Images; Court's Exposition of the Relations of the British Government with the Sultan of Palembang.)

BANCO, in entomology, a genus of the order Hymenoptera. (See INSECTOID.)

BANCO. [See BANK]

BANROFT, RICHARD, Archbishop of Canterbury in the reign of James I., was born at Farnworth, in Lancashire, in 1564. He was first a student of Christ's College, Cambridge, where, in 1587, he took the degree of B.A., and thence removed to Jesus College, where he became Master in 1589. He was presented to the rectory of Taverham, in Cambridge-shire, by Cox, Bishop of Ely; and instituted, in 1594, at the consecration of the executors of Henry Earl of Southamp to the rectory of St. Andrew's, Holborn. In 1633 he was made treasurer of St. Paul's Cathedral, prebendary of Bromsgrove in St. Paul's in 1589, of Westminster in 1591, and of Canterbury in 1594, about which time he distinguished himself by a sermon preached at St. Paul's Cross against the ambition of the Puritans. On May 8, 1597, he was consecrated Bishop of London. From this time he had in effect the archiepiscopal power; for the archbishop had advanced in years, and John Prideaux, the Bishop of Exeter, had taken the sole management of ecclesiastical affairs to Bishop Bancroft. In 1600 Queen Elizabeth joined him with Dr. Parkinson and Dr. Swale, in an embassy to Embden, to put an end to the differences between the English and Danes; and to implore the continuance of the commercial treaty. In 1597, James's reign he was present at the conference at Hampton Court between the bishops and the Presbyterian ministers. In 1601, upon Whitsuntide, he was promoted to the archbishopric of Canterbury; and in the same year was appointed Chancellor of the University of Oxford, in the room of the Earl of Dorset. He died Nov. 2, 1610, of the stone, in his palace at Lambeth.

Bancroft filled the see of Canterbury with great reputation; he was a learned and venerable, an able preacher, a great statesman, and a vigilant governor of the Church. He was, however, rigid in his treatment of the Puritans, and on that account has been spoken of with some severity. He was the chief overseer of the last translation of the Bible into English. By his will he desired to be buried in Lambeth Chapel; and all the books in his study to the archibishop for ever. His remains were, however, interred in Lambeth Church. (See the Biographical Britannica, ed. 1778, vol. i. p. 377; of whose Psalms Ossian, of whose Life, Letters & Works, by Mr. Coxe, M. S., London, 1792, fol. 155, 157; Calhern's Biogr. Dict., vol. ii. p. 684.)

BAND, in architecture, a flat moulding, with a vertical face slightly projecting beyond the vertical or curved face of any adjoining or part of an edge it is attached to. It is extensively employed in pediments and is used apparently to bind parts of buildings together, as in the bands which are employed to bind the triumphal arches of the Doric architecture. (See TRIGLYPH.)

The term band and fillet, little band, is often applied to what more properly speaking a fillet. (See FILLET.) The band is broader, in proportion than the fillet. This moulding is also employed to encircle the shafts of columns (see COLUMNS DECORATED WORK); the pediments of the Laxenburg at Paris, and the Patti palace in Florence, are remarkable examples of banded columns. Vatrnhus calls the band ferment and fascia; fascia is a term applied also to the flat faces of the architrave. A plain band is often placed between public and private buildings, and the moulding is nearly on the same level with the floors, so that the original plan had been to finish the projecting ends of the floors with a flat board.

BAND, also written BUND, or BEND, the Persian word for a dyke, or artificial embankment, as met with as a component part of names in eastern geography: for instance, in the name of the Persian river Bandi-Emir, a branch of which passes near the ruins of Persepolis. This river received its appellation in honour of Emir Azizabad, the Khazerian, or the Persia, or Persia Proper, who, about the year 1000 of our era, raised a dyke on the river near the ruins of Persepole, for the purpose of procuring a supply of water to furnish the palace. (See Kur Porus, i. 884; See W. Ouseley's Travels, i. 191.)

RANGA ISLANDS are a group of small islands in the Eastern Archipelago, which he about forty-five miles to the south of Ceram, and are contained between the parallels of 3° and 4° 15' lat. and the meridians of 120° 41' and 120° 9' E. They are nine in number, u. s. . , 

Rasun, Rungan, Bunga, Bungoe, and Capi, each several rocky islets. The group takes its name from the first of these, which is the largest island. There are doubtless some accounts of the name. It was first met with in the Travels of Thunberg as early as 1504, in company with some Persian merchants, to whom they were well known, and who, with other Arabo-hindus, had long traded to them. But tho
first authenticated visit made by Europeans was by a squadron of Portuguese, sent by Albuquerque from Macau in 1511. That nation did not, however, appear in force to take possession till 1521, from which time they maintained the same, being for about ten years a long period of anarchy and hostility. The hatred of the natives to the Portuguese readily induced them to join the Dutch in their expulsion; but they soon found they had but changed masters. The islands were then occupied by the Dutch, as Nara, or Naray, from which time the first English vessel had arrived from Bantam under Captain Keeling. The Dutch, however, claiming the monopoly of trade, and being greatly superior in force, annoyed the English so much that they could scarcely use the island. The monopoly of trade was conceded to England, her ships continued to trade with the natives, though under very disadvantageous circumstances. In 1616, the island, the most barren of them all, having been made over to the English, an expedition was sent from Bantam, which established a fort and factory there. This rivalry naturally led to many quarrels, in all which the Dutch being the stronger, succeeded in gaining the advantage; but in 1619 it was agreed by treaty that England should have the trade of the islands, a privilege, however, from which the Dutch contrived entirely to exclude the English. The Bandanese made various attempts to resist the terms on which they sold the nutmeg in these islands, the Dutch, who, by dint of coercion, retained the islands, were allowed to trade there. In 1652, the Banda Islands were in possession of the English without respite, but were restored to Holland by the treaty of 1801. In September, 1811, they were again taken by the English, and once more restored in August, 1816. The islands produce the nutmeg almost exclusively, whence they are frequently termed the Nutmeg Islands in contradistinction to the Amboynas, which yield the clove; from the nutmeg and mace the natives extract an oil as an agent in coconuts, and their imports consist chiefly of rice, salt, pepper, and muscovado. At the time of their being first visited by Europeans, these islands were governed by an aristocracy of their own chiefs or Sadoras.

The Bandas are subject to earthquakes; on Gongong, the highest of the group, there is a volcano 1540 feet high, constantly emitting smoke and frequently flame. On Nera is the chief settlement of the Dutch, which was their second government in these seas, and the governor of the islands now resides on it; this locality was selected on account of its spacious and commodious bays on the north, which are a difficult of access. The anchorage is protected by two forts called Belgica and Nassau; and on Banda, the opposite shore, are a fort and redoubts. All the islands are more or less fortified. Way Island is the most beautiful and pleasant of the group, and the site of the capital, where the inhabitants depend on rain or obtain supplies from the other islands. Rosasunge is used as a slave port. The nutmeg grows on Banda, Nera, Way, and Gongong, not only in the rich soil of the government of Brazil to take possession of the islands chiefly raise provisions. The area of the whole group only occupies a space of 190 square miles. Banda Island forms a right angle five miles north and south, and six miles east and west, and about two miles average breadth. The tales about these islands are strong, but not regular; they rise between nine and ten feet. (Mandelslo's Travels, i. p. 412, Leyden, 1719; Barros: Crawford's History of the Indian Archipelago; Horsburgh's Dutch East India Company; J. M. Fernández.)

BANDA ORIENTAL was the name of that portion of the vice royalty of Buenos Ayres which was situated to the east of the river Uruguay, and comprehended the present República del Uruguay Oriental and the country called the Grand Chacabia, which terminate abruptly in the plains on the banks Mirim and dos Patos at about twelve or twenty miles from their banks, are called Serra de los Tappes. On the west the table-land seems to extend to the banks of the river Uruguay, but here it is cut by numerous valleys, and is separated from the adjacent country. In these valleys, as well as in those which lie along the southern coast, west of Cape de S. Maria, many fertile tracts occur in which the grains and fruits of Southern Europe succeed very well; but the remainder is only fit for pasture. That portion of the Banda Oriental which extends along the coast to the north of Cape S. Maria, and about sixty or eighty miles inland, is low, and is a part of a very remarkable tract, which, crossing the South Sea from America to S. 34°, 40," or from the island of S. Catherine to Cape de S. Maria. Nearly through its whole extent it is covered with sand, and intersected by innumerable lakes of different sizes. The greatest part of this tract is the province of Rio Grande do Sul, where further particulars will be given. It is of very indifferent fertility.
This country, being situated without the tropics, enjoys a temperate climate, resembling that of Spain or Italy; the air is pure and healthy. In the valleys and on the low plains the winter, which lasts from May to October, is less distinguished by frost than by rain, which is carried to the land by the then prevailing south-eastern winds. Frost is occasionally felt in July and August. The high table-land is annually exposed to it, sometimes for one or two months together; but as very little snow falls, the cattle find pasture in those districts all the year round.

The Uruguay, which originates in that portion of the Sierra de Mar which stretches along the ocean opposite the island of S. Catharina, and runs for a considerable distance under the name of Pellotais westward, between banks consisting primarily of pebbles and masses of rock, is one of the principal rivers of Uruguay, not far from the point where it begins to separate the province of Rio Grande do Sul from the republic of Corrientes. Here it assumes the appearance of a large river, and soon begins to bend its course to the south-west. Numerous small streams increase its waters in this part of its course. In lat. 29°4 it receives the Ibevuy, and then begins to flow in a southern direction, forming the boundary between Banda Oriental and the republics of Corrientes and Entre Rios. Not far from the place where its waters first assume the character of a stream, its waters are increased by those of the Rio Negro, which joins it on the left bank. The Uruguay is navigable for large boats to the first great fall, called Salto Grande, situated near the southern extremity of the mouth of the Ibevuy and Rio Negro. About forty miles below the former there is the Salto Chico, or Little Fall, which again interrupts the navigation of the smaller boats or canoes. The whole course of this river may amount to about a thousand miles. The river flows in its Grand course to the west, but soon turns northward, and flows in that direction for upwards of sixty miles, after which, having joined the Ibevuy Mirin (Little Ibevuy), it again turns to the west and becomes a considerable river, separating part of the province of Rio Grande do Sul. Its current is almost always tranquil, and the stream is navigable nearly to its head. The whole course of the Ibevuy amounts probably to upwards of 250 miles.

The Rio de la Plata, in its origin, is a branch of the Ibevuy, and its general direction is to the south-west. It joins the Uruguay about twelve miles below that river enters the Rio de la Plata, after having run upwards of 230 miles. Two considerable lakes, lying in the eastern plain, belong in part to Banda Oriental; the largest is the lake Mirin, which signifies 'small,' having received this name from comparison with the lake Los Pos, which is not far distant to the north, but belongs to the province of Rio Grande do Sul. The lake Mirin is ninety miles in length and twenty-five at its greatest width; its shores are washed by the ocean, and discharges its waters into the lake of Los Patos by a channel fifty miles long, wide, and navigable, which is called Rio de S. Gonalo. About the southern half of this lake belongs to Banda Oriental. The paler than the Mangueiras, by Henderson called Mangueiras, extends between the coast and the lake Mirin. It is eighty miles long and about four broad, and empties itself into the ocean at its northern extremity by a short channel called Arroio Tahan. The greatest part of this lake belongs to Banda Oriental.

It is not ascertained whether gold and silver are found in this country; but at San Carlos, to the west of Cape de S. Maria, a rich copper-mine is worked. From the banks of the principal rivers, quantities of fish are brought down to Buenos Ayres, and in the same districts potter's earth andumber, or terra-sonoma, are found.

The valleys, on the west and south, are well adapted to a great diversity of production. Wheat, rye, barley, Indian corn, sugar, tobacco, water-tobacco, oranges, lemons, with onions, are cultivated; also some cotton, manila, and the sugar-cane. Hemp and different qualities of flax grow in great abundance. The fruit-trees of the south of the country are better than those of the north, and none so well as the peach. The vine grows well, and produces abundantly, but hitherto no wine has been made.

Timber is by no means abundant; for from 30° southward it is only on the banks of the principal rivers that any forests of fine full-grown timber occur, the table-land being either quite bare, or only covered with shrubs. In some of the latter districts, bones and the excreta of cattle are burnt for fuel.

More than four-fifths of the country being only fit for pasture, cattle of course constitute the chief wealth. The richest proprietors often possess thirty or forty square miles of land, and feed from five to ten thousand head of cattle and upwards. By far the greatest number are those called bravo, because they live in a state of wildness. Some cattle are consumed in the country, and others sent to the slaughter-houses of Monte Video and Buenos Ayres. At the latter place the more choice grades of meat, or 'jerked beef,' which is salted without the bones, dried in the sun, and exported to different parts of America, especially Brazil. Every great proprietor breeds also a certain number of horses and mules, and some of them are of a good price and very fine quality. Neither goats nor paca are numerous.

Game is very abundant, but the people generally are not very fond of hunting or shooting. Among other species of wild quadrupeds, there are the anta or tapir, the deer, the ounce, the monkey, the paca, the rabbit, the armadillo, the squash, the boa, the fox, and some others peculiar to the country. The European species of dog have multiplied so excessively that they live wild in the plains, without ever entering any village or dwelling. They are called salto or castrone on the slaughter of cattle eating, or when they want provisions, they assemble in large bands, and encircle an ox, which they pursue with unceasing obstinacy until the animal falls with fatigue, when he is soon devoured. Even a horseman has some risk in the plains, when the dog is in a state of famished rage.

Birds are very numerous. In the lakes of the eastern plain there are wild ducks and large wild geese, some brown, some white, and others with black necks, which have a fine flavor. Birds of passage are very numerous. There are a few varieties of parakeets, and the Macaco partridge, the tucan, and many others.

When the Europeans first arrived, several native nations were in possession of this country, some of whom are still found in the interior, as the Charruas, Mimasuos, Tepues, and Guayranas, but in small numbers: by far the greatest number of the inhabitants are of European race. The population is generally stated. Schäffer makes it 173,560; but others lower it to 60,000, and even to 30,000. The metropolis of the republic will be described under the head of蒙特维达. Between it and Capa de S. Maria stands the town of Maldonado, with a fine harbour, good fortifications, and about 6000 inhabitants: it exports hemp and copper. Colonia del Sacramento is a small town, with a harbour, opposite Buenos Ayres. Thus it is seen that it is a few miles, but none of great extent. The largest, called Dos Lopes (of the wolves), is not far from the harbour of Maldonado: it is two miles in circumference, and contains good water, but is almost all rock and stones.

The Republica del Uruguay Oriental was published in the month of August, 1830: according to which the legislative power is divided between a senate consisting of nine members, and a house of representatives consisting of twenty-nine members. The Code Napoleon is in force, and the country is governed by the law of the country. The currency is the peso, equal to 800,323 Spanish dollars, and the expenses of government to 1,013,484. The country was then divided into nine departaments.

J. D. Henderson; Schäffer; Abredo; Map in Span and Martinus J. Schäffer's Travels.

Bandage is a term employed in surgery to describe the bands or strips of cloth by which dressings are kept to wounds, separated parts are brought together, blood-vessels are checked, and other protruding parts of the body are supported and retained in their normal position. Bandages are commonly composed of flannel, calico, and linen, cut into different shapes, according to the parts to which they are applied, and the purposes for which they are required. Thus the bandage often employed for the head and lower extremities, and called eighteen or many-ended bandage, is composed of a longitudinal piece of calico or linen, with transverse pieces, or tails, to fall over the imposed part. Another bandage resembles in shape the letter V, and is made of bandage, and one available in almost every case, is a him
strip or ribbon of calico or flannel, varying in width from two to six inches. Previous to its application it is rolled together, and hence in surgical language is called roller, and the application of a bandage is called rolling. Of late years, ribbons of stocking-net, commonly called elastic web bandages, have been much used, and they appear peculiarly adapted for the purpose, as their elasticity prevents injurious consequences on any sudden increase of the size of the part to which the bandage is applied. On the other hand, a calico or India-rubber, interwoven with silk and cotton, is now frequently employed in the construction of bandages.

The proper employment and management of bandages is an art which demands a good deal of practical knowledge, for after most operations and accidents, and in almost all cases of diseases and deformities, the assistance of bandages is required, and on their proper application the successful issue of the case frequently depends. The great object in the use of a bandage is to give support to the part to which it is applied, and it is of course essential that it should not be easily displaced or deranged by any movement of the patient. The bandage should be put on firmly, so as not to produce pain, but to afford gentle and easy support; and above all it should never be tight in some parts and loose in others, as by partial compression of a limb mortification is easily produced. An idea of the ordinary manner of applying bandages may be collected from the following passage of Mr. John Bell, in his Principles of Surgery, vol. i. p. 174:— "The firmness and security of the bandage depend altogether on these two points: first, on the turns succeeding each other in a regular proportion; and, secondly, upon making reverses (a term afterwards explained) and always making the turns in the same direction, from the varying form of the limb. Thus in rolling from the foot to the ankle, leg, and knee, you must take care—first, that the turn lie over one another by just one-third of the breadth of the bandage; and, secondly, that at every difficulty part, as over a joint, you turn the roller in your hand, make an angle, and lay the roller upon the limb, with the opposite flat side towards it." Mr. Bell deeply lamented the little attention bestowed on this subject in his time by medical students; and we fear that the same cause, the want of the necessary instruction and practice, still operates, to a great degree, to the disadvantage of the profession. In many of the continental schools, particularly in Germany, distinct courses of instruction have long been given on bandages, and students are required to practise their application in the presence of the teachers. Within the last year or two, courses of lectures on bandaging have, we are happy to say, been given in London.

BANDERGES, or BANDOLERES. [See Arms.] BANDERGES, or BANDOLERES, is a French word for a carrying-bag, and in modern geography is often met with as the component part of proper names, especially of many sea-ports: for instance, Banderas, Cautan, Cartagena, on the coasts of Mexico; and it is applied to a body of German foot-soldiers, who were employed in the Italian wars by Louis XII. of France. Robertson alludes to them in his History of Charles V. (edit. 1470, vol. i. p. 113.) They received their name from carrying black bands on their shoulders, as badges of their rank.

BANDERMASSIN, RIVER. [See Border.] BANDER MAIL. BANDES BLEUES, or the Blue Bands, is a nickname given to a body of German foot-soldiers, who were employed in the Italian wars by Louis XII. of France. Robertson alludes to them in his History of Charles V. (edit. 1470, vol. i. p. 113.) They received their name from carrying black bands on their shoulders, as badges of their rank.

BANDELLO, BANDONELO, BANDONELLO, or BANDONEL, the Persian word for a harbour, is in eastern geography frequently met with as the component part of proper names, especially of many sea-ports: for instance, Bandelos, Bandari, Bandar, Bandarab, Bandar Abbas, Bandar Boz-Bazar, and many others of the same character. In the 15th century the Persians were noted for their seafaring, and it is evident that they were not only as skilful sailors, but that their commerce extended far beyond the Persian Gulf. They are said to have penetrated into the Red Sea, and to have traded with the Africans. The name Bandellos is applied to a body of German foot-soldiers, who were employed in the Italian wars by Louis XII. of France. Robertson alludes to them in his History of Charles V. (edit. 1470, vol. i. p. 113.) They received their name from carrying black bands on their shoulders, as badges of their rank.

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BANDELLO, MATTEO, was born at Castelnuovo di Serivia, in the province of Tortona, in North Italy, in the latter part of the fifteenth century. He entered the order of St. Dominic, in which he had an uncle, and was an inmate of the Convent delle Grazie at Milan at the time that Leonardo da Vinci was painting his famous Last Supper in the refectory of that house. He there heard Leonardo relate a story which forms the subject of one of Bandello's novels, which is very like the whole Dominican order, took Bandello with him in the travels which he was obliged to undertake in the discharge of his new duties. They visited Florence, Naples, and other parts of Italy. Having returned to his convent at Milan, Bandello saw that he had been left to himself, and entered that city in 1525, his father having taken part with the French. His apartments were plundered, and he lost all his books and papers; but he found an asylum with Cesare Fregoso, an Italian nobleman, who resided at Bologna. Bandello returned to the exiled court of the Pope and accompanied him to several courts of Italy, and afterwards to France, where he obtained, in 1550, from Henry II., the Bishopric of Agen. Bandello left the care of his flock to the Bishop of Grasse, reserving to himself part of the income of the post, and he continued to live there, until the year of his death is not known. Bandello holds a rank in Italian literature on account of his Novelle or tales, written somewhat after the manner of those of Boccaccio, though in less pure Italian. But in fluency of narrative, and vivacity of description, Bandello rivaled and even surpassed, at times, the Tuscan novelist. On the score of morality, most of his tales are as exceptional as those of Boccaccio; but the approach of Bandello's pathetic tales is on the subject of Romeo and Juliet, which, however, had been already treated by Luigi da Porto, a contemporary writer, from whom it would seem Bandello took it. Da Porto wrote this novel in 1524, as appears from a letter of Benoît de la Broquère, who, about the year 1526, heard the subject first talked of at the baths of Caldiero, where he was with his patron Fregoso several years after. Da Porto's novel was first published at Venice by Bendoni, without date, and a second edition was issued by the same printer in the same year. The first edition of Bandello's novels is that of Lucca, 1554, in 3 vols. 8vo. A fine edition of Bandello's novels was published in London, 1749, 3 vols. 4to. Bandello was well acquainted with Greek literature, and made many Italian translations of the works of Euripides. He also wrote a vast quantity of Italian verses on various subjects. Bandello was, for some time, preceptor to Lucrezia Gonzaga, a lady who became illustrious for her virtues as well as for her learning. A letter is extant, written by her many years after, to Bandello, who was then in France, in which she expresses her gratitude for the instruction and the wise principles which he had instilled into her mind; an acknowledgment which seems to indicate that Bandello was not so loose in his character and principles as one is tempted to think from the spirit of the lines which Lucrezia Gonzaga; Affl. Memorie di Lucrezia Gonzaga; Mazzuchelli, Scrittori d'Italia.

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Père Daniel says, the French regiment of Piedmont, which had served for a long while in Italy, also took the appellation of Bandes Noires, after the death of their colonel, the Comte de Brissac, in 1569. The colours of that regiment, he adds, continued to his time to be black, with a white cross. (Hist. de la Milice Françoise, p. 383.)

Another body of troops, formed of Italian, afterwards took the same name from the same cause, the La Bande Nère. Père Daniel calls them, Les Bandes Noires Italiennes, to distinguish them from the Germans. These, 3000 in number, had been commanded by Giovanni de' Medici, and fought before Pavia. Their commander having been previously wounded by a ball, and shot in an affair where Governo sul Mantovano, the subsequent amputation of his leg at Placentia, whether he had been removed, caused his death in November, 1526, when only twenty-eight years of age. Out of grief for his loss, the soldiers whom he had commanded chose as a badge of their memory to distinguish one of uniform black, which obtained for them the appellation of Le Bande Nère, or the Black Bands. (See Montliv. Commentaires, edit. 12mio. Vol. 1661, tom. i. pp. 50, 51; Vitae de Bannarii Colvini, edit. Fr. 1829, tom. i. p. 39, note. 43; Alberoni, op. cit. p. 521.) The number was increased to 4000: they subsequently associated themselves to the Marquis of Saluzzo. (Montliv., ut supra.)

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BANDICOOT (Peraneetus, Geoff. St. Hilaire), in zoology, a genus of marsupial mammals, which appears to occupy, in Australia, the situation which the shrews, tenrecs, and other insectivora fill in the Old World. As this is the first mention of this order of animals, it will be necessary, in accordance with our usual plan, briefly to state the principal characters which distinguish this order of animals from the other more ancient orders, and the analogies which it exhibits, either among its own subordinate divisions, or when compared with surrounding groups. At the time of Captain Cook's first voyage, the only marsupial animals known were the opossums of America, and these had formed a distinct order of their own, the Didelphy, (double-wombed), from the peculiarity of conformation which we shall presently notice. The discovery of Australian mammals, however, which attended the visit
bamboo stems, among which they grow. In the words of Dr. Roxburgh, the shoots, on their first appearance, resemble a large elephant’s tusk invested in stout leafy sheaths.

The purposes to which different species of bamboo are applied, cannot be numbered, so numerous that it would be difficult to point out an object in which strength and elasticity are requisite, and for which lightness is no objection, to which the stems are not adapted in the countries where they grow. The young shoots of some species are cut when three or four feet high, and dried in the sun, when they can be split and used as wickerwork. See the Chinese basket-makers. While green, form elegant cases, exhalting a perpetual moisture, and capable of transporting fresh flowers for hundreds of miles: when ripe and hard, they are converted into bows, arrows, and quivers, lances—shields, masts of ships, bed posts, walking-sticks, the poles of palanquins, the floors and supports of rustic bridges, and a variety of similar purposes. In a growing state the steely kinds are formed into stockades, which are impenetrable to any but regular infantry, aided by artillery. By nailing their sides, the Malays make wonderfully light scaling-ladders, which can be conveyed with facility where heavier machines could not be transported. Bruised and crushed in water, the leaves and stems form Chinese paper, which is manufactured into coarse hair or wadding by the mixture of raw cotton and by more careful pounding. The leaves of a small species are the material used by the Chinese for the lining of their tea-chests. Cut into lengths and the partitions knocked off, or into coarsely powdered chips, the wakening with contrivance, are made into excellent cases for holding rolls of prints. Silt into strips they afford a most durable material for weaving into mats, baskets, window-blinds, and even the sails of boats. Finally, the larger and thicker the shoots, the Chinese have invented beautiful ornaments. It is, however, more especially for building purposes that the bamboo is important. According to Marden, in Sumatra the frame-work of the houses of the natives is chiefly composed of this material. In the flooring, whole stems, four or five inches in diameter, are laid close to each other, and across these slats of split bamboo about an inch wide are fastened down with diamantes of the rattan cane. The sides of the houses are closed in with the bamboo spread, and rendered fast by nailing or nipping the circular joints on the outside, chipping away the corresponding divisions within, and laying it in the sun to dry, pressed down with weights. Whole bamboo often form the upright timbers, and the houses are generally roofed in with a thatch of split bamboo, six feet long, placed in regular layers, each reaching within two feet of the extremity of that beneath it, by which a treble roof is formed. Another and most ingenious roof is also formed by the bamboo spread, in which the leaves are placed and fastened high, so that the eaves hang four feet from the ridge to the eaves, when splitting them exactly in two, knocking out the partitions, and arranging them in close order with the hollow or inner sides uppermost; after which a second layer, with the outer or convex side in the centre, each of the convex falls into the two contiguous concave pieces, covering their edges; the latter serving as gutters to carry off the rain that falls upon the upper or convex layer. Such being the utility of the different species of this plant, we shall give a brief and popular account of all with which botanists are acquainted, in the hope that it may be the means of causing new varieties to be introduced into cultivation. It is still uncertain, but seems to be the more important, because they generally grow in dry and stony places, where little or nothing of equal utility can be made to thrive. That some of them would grow in the west of Ireland, or the south of Europe, seems to be almost certain.

In Rees’s Cyclopaedia, Sir James Smith noticed only four species, under the name of Nastus; Dr. Roxburgh speaks of but six species as known in continental India; Römer and Rehder make mention, to which we have added indications of several more. They may be conveniently distributed in three sections.

1. **Austie Bamboo**, with the flowers either in spikes or panicles.

1. *B. arundinacea*, Roxb. Spiny. Leaves very narrow, covered with asperities on the margin and upper surface. (*Bambusa* in Bengale; *Mult. Malav* :- Dr. Roxburgh speaks of but six species as known in continental India; Römer and Rehder make mention, to which we have added indications of several more. They may be conveniently distributed in three sections.

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11. B. maxima, Poir. Stems very straight, branching only near the summit, and densely covered with smooth, slender, lanceolate leaf-sheaths. The most gigantic of all the species, from eighty to a hundred feet high, and sometimes as thick as a man's body. Its wood is, however, very thin. It is found wild in Cambodia, Bally, Java, and various islands of the Malay Archipelago.

12. B. sapiens, Schultes. Stems covered all over with a sort of white mealy down. (Bulu potong of Amboyna.)-Found at the foot of mountains in Amboyna, with stems from twenty to seventy feet high, and as thick as a man's thigh. It does not branch, but emits little, hard, spine-like roots at its nodes.

13. B. apus, Schultes. Leaves very large, taper-pointed, and gradually narrowing to the base, extremely scabrous at the base, and thick as a man's hand. It does not branch, but emits little, hard, spine-like roots at its nodes.

14. B. Bintang, Schultes. Leaves very large, taper-pointed, narrow at the base into a sort of bristly very short stalk, very scabrous at the edge and on the upper surface. Found in Java with the last, and remarkable for its extremely broad and scabrous leaves. Its dimensions are not stated.

15. B. nigra, Loddiges. Not spiny. Stems slender, swelled at the nodes, dark-brown, and polished, not more than three feet long, round, rough, and narrowed at the base into a short stalk; ligule with long stiff fringes.-A native of the neighbourhood of Canton, where its beautiful slender stems are cut for the handles of parasols, walking-sticks, &c. It is by far the most perfect of all the species, being a true Polygonum with perfect protection in a morass in the garden of the London Horticultural Society, and is doubtless capable of being acclimated in the south-west of England, or on the west coast of Ireland.

16. B. atrata, Loddiges. Stems slender, smooth, not spiny. Leaves smooth, gradually narrowed at the base into a short stalk; ligule divided into very long coarse fringes. Nodes mealy when young.-Native of the East Indies. A very elegant species, rare in the last.

17. B. neba, Roxb.-Kwe fa of the Chinese, of whose country it is a native. It makes most beautiful close hedges.

18. B. pubescens, Loddiges. Not spiny. Young shoots, leaf-sheaths and leaves on the under side, covered with short down. A very remarkable species, obtained by the English from the collections of France. Its native country is unknown. The stems are thirty feet long, and an inch and a half in diameter.

19. B. strata, Loddiges. Not spiny. Stems slender, polished, yellow with green stripes. Leaves narrow, rather glaucous on the underside, tapering into a short stalk at the base, quite smooth, except a few short black hairs on the sheaths.-A native of China. Often cultivated in the borders of gardens, and is a beautiful variegated stem. Grows about twenty feet high.

20. B. glauca, Loddiges. Not spiny. Stems very slender, pale green. Leaves very small, not downy, taper-pointed, almost heart-shaped at the base, covered on the under-surface with very close bright glaucous bloom. Leaves scarcely above an inch long, and not more than two lines broad.-A native of India, whence it was procured by the Messrs. Loddiges. A very remarkable species, not growing above two feet high, with entangled branches.

§ 2. Asiatic Bamboos, with the flowers not panicked, but in simple terminal whorled spikes.

21. B. viridiflora, Willd. Leaf-sheaths covered with stinging hairs, smooth, with a dozen or fourteen feet long, and when full-grown of a pale colour, which becomes nearly white in drying. The hairs of the leaves occasion so much stinging, that this kind is troublesome to collect. It is the Lathraea alba of Humphrey, who says the edges of its leaves are so sharp as to wound the gatherers. In Amboyna.

22. B. ostra. Leaf-stalks covered with stinging hairs. Stems black and shining.-Very like the last, and found also in Amboyna. It chiefly differs in the colour of the stems, which are black and shining, and the presence of fourteen to seventeen or sixteen feet long, and when full-grown of a pale colour, which becomes nearly white in drying. The hairs of the leaves occasion so much stinging, that this kind is troublesome to collect. It is the Lathraea alba of Humphrey, who says the edges of its leaves are so sharp as to wound the gatherers. In Amboyna.

23. B. pruriens. Leaves very large, stiff, and broad, extremely hisped with stinging hairs.-The most common in Amboyna, forming large woods, which come down to the road: it flowers equally in dry and moist situations, and is found both in the open land and on the edge of the sea. Leaves are very large, and not more than three inches thick, and four or five inches broad.

24. B. picta. Joints very long, variegated with white and green. Leaves not very hairy.—Common in Ceram, Kelang, Celebes, and some other islands. Its joints are as much as four feet long, and about two inches thick: the wood is thin, and it is consequently used principally for light walking-sticks; it is however extremely strong.

25. B. Amboyna. Joints very long, covered with hisping hairs on the upper part of the stem, but smooth elsewhere, and well-fringed on the base. -Less large, and more short-jointed than any of the preceding species of this section. Its wood is very thick. In Amboyna and Mani. Pac.

26. B. multiflora, Lour. Stems very long, jointed, not spiny. Leaves single, narrow and clasping the stems at their base. -Cultivated in the North of Cochinchina for hedges. Its leaves are very narrow and of a brownish-green. The stems are about three inches long.

27. B. tuberculata, Poir. Stems slender, very straight, of nearly equal thickness, branched; with very long rough joints.-Wild in the black and argillaceous soil of Amboyna, Mani, and Java, in the plains and moister parts of the mountains. Its stems are nearly solid, and excessively tough and hard. The joints are three or four feet long, and not thicker than the little finger; when polished they make the finest pipe-sticks. The outside is so hard, that it emits sparks when struck by the hatchet. The species runs very much at the root.

§ 3. American Bamboos.

28. B. Guadaloupe, Humb. Leaves very narrow, covered with asperities at the nodes, and on the base, found in warm and temperate places, on the western side of the Cordilleras of New Granada and Quito, growing like a tree thirty or forty feet high, with a knotted, shining trunk, sixteen inches in diameter. The leaves, which are six or seven inches long, are not more than six inches wide.

29. B. latifolia, Humb. Leaves narrow, but oblong; extremely smooth.—About twenty-five feet high, dropping at the point, with shining joints, two feet long, and about four inches thick. The leaves are the same length as in the last, but thrice as broad. It is found in the damp shady woods on the banks of the river Casiquiare, in tropical America.

30. B. Tagaza, Nees. Leaves oblong-lanceolate, rounded at the base, and then narrowed into a very short fold. Stems twenty to thirty feet long, and four to six inches in diameter, with joints from six to eighteen inches long; the leaves are nine or ten inches long and full two inches wide. Found by Dr. von Martius in woods 1800 feet above the sea, on the mountain called Serra de Mar, towards Guaraniquasia, in the province of St. Paul's.

31. B. parviflora, Schultes. An obscure species, found on the mountains of Peru, in Huancoco, by Henke. The flowers are small, and the leaves lance-shaped, taper-pointed, with a scabrous edge.

There can be no doubt that many other species of this curious genus are to be found in the tropical parts of Asia and America: it is also not improbable that some of the foregoing may be repetitions. Travellers who have opportunities of procuring wild specimens of bamboo should dry a small branch with the leaves, and if possible the flowers; and should, at the same time, put by a portion of the lower part of the stem, six or seven feet long, marked so as to correspond with the dried specimen.


BAMPEEAN, or BAMPON IN THE BUSH, a market town and parish in the county of Oxford and the hundred of Bampton. The population in 1801 was 1003; in 1811, 1234; in 1821, 1424; and in 1831, 1685. [See Oxfordshire.]

BAMPTON, a market town and parish in the county of Devon and the hundred of Bampton. It is 160 miles from London, about half-way between Minehead and Exeter. Its weekly market is on Saturday, and there are two fairs in the year, one of which is held on Whit-Tuesday, and the other on the last Thursday in October. At these half-yearly fairs some of the finest sheep in England are sold. In 1801, population, 1091; in 1811, 1424; in 1821, 1293; and in 1831, 1663. [See Devonshire.]

BAMPTON LECTURE, an endowment for ever of a course of Eight Sermons, to be annually preached in the
University of Oxford, between the commencement of the last month in Lent Term and the end of the third week in Act Term, at St. Mary's Church. This lecture was founded in pursuance of the will of the Rev. John Bampton, canon-rector of the cathedral of Salisbury, who ordered that the subject should be lectured in the first week in Easter Term, by the heads of colleges only, and no others: no person to be qualified to preach the sermons unless he had taken the degree of M.A. at least, in one of the two universities of Oxford or Cambridge, and had been a practitioner in the profession two years. The sermons to be upon some one or other of the following subjects: to confirm and establish the Christian faith, and to confute all heresies and schismatics; upon the divine authority of the Holy Scriptures; upon the authority of the writings of the primitive fathers, as to the faith and practice of the primitive church; upon the divinity of our Lord and Saviour Jesus Christ; upon the divinity of the Holy Ghost; upon the Articles of the Christian Faith, as comprehended in the Apostles' and Nicene Creeds. Thirty copies of these lecture-sermons are to be always printed within two months after they are preached; one copy to be given to the Chancellor of the University, one to the head of every college, one copy to be put into the Bodleian Library; and the expense of printing them to be paid out of the revenue of the lands or estates given for establishing the lecture; the preacher not to be paid, nor to be entitled to the revenue, before they are printed.

The names and dates of the successive preachers from 1780, when the series was begun, will be found in the Oxford University Calendar. The greater part of the sermons preached have been published, but a few of the course of the thirtieth century, with the sign and the part came from the hand of the first Tuesday in the Emma Library, and Reginald Hobart, M.A., are perhaps the most eminent.

The clear income of Mr. Bampton's estate, in 1780, amounted to 120l. per annum.

BRN., a word found in many of the modern languages of Europe in various senses. But as the idea of publication or proclamation runs through them all, it is probable that it is the antient word flas still preserved in the Greek and the modern Welsh in the simple sense of proclaiming.

As a part of the common speech of the English nation, the word is now so rarely used that it is put into some nomenclatures of provincial or archaiscal words, as if it were obsolete, or confined to some particular districts or particular classes. Yet as a substantt, both as a substantive and as a verb, it is found in some of our best writers; among the poets, Spenser, Marlowe, and Shakespeare; among prose-writers, Knolles and Hooker. By these writers, however, it is not used in its original sense of proclamation, but in a sense that it is not always preserved in the language of a particular kind; and it is in this secondary sense only that it now occurs in common language, to denote cursing, denouncing woe and mischief against one who has offended. A single quotation from Shakespeare's tale of Venus and Adonis will show precisely how it is used by writers who have employed it, and by the people from whose lips it may still sometimes be heard:

All smiling with shaking down Atlantic blare, Drowning the beauty and beauty less.

The improvement of English manners having driven out the practice, the word has nearly disappeared. But in the middle ages the practice was countenanced by such high authority, that we cannot wonder at its having prevailed in the middle ages, and of affair.

When churches and monasteries were founded, writings were usually drawn up, specifying with what lands the founder and other benefactors of the church endowed it, and the names of persons under whom they gave. A similar practice was followed in the case of the church and the world by the donors, with certain accompanying ceremonies. Matthew Paris, a monk of St. Alban's, who has left one of the best of the early chronicles of English affairs, relates that when King Henry III. had refounded the church of Westminster, he went into the chapel of St. Catherine, where a large assembly of prelates and nobles was collected to receive him. The prelates were dressed in full pontifical, and each bore a censer in his hand. The king approached to the altar, and laying his hand on the Holy Eucharist, pronounced a sentence of excommunicaction against all who should oppose the church of anything which he had given, or were to give it to its rightful use. While this sentence was pronounced, the preacher cast down the candles which they held, and while they sat upon the pavement, smoking and sitting (as we use the words of the author who relates the transaction), the Archbishop of Canterbury said aloud: Thus, thus may the condemned ships be burnt, and the sentence against all persons of whatever degree who should violate the charters. This was done in Westminster Hall on the 3rd day of May, 1253. The transaction was made public record, and is preserved in the great collection of national documents called the Staiths and the Parliament. But besides these general bannings, particular persons who escaped from justice or who opposed themselves to the sentence of the church, were sometimes bann'd or placed under the ban. In the history of the Church, and most remarkable instances of this kind is the case of Guido de Montfort. This Guido was the son of Simon de Montfort, earl of Leicester, and brother of King John. In the troubles in England, in which his father had died, he had been more active in the king's service than Henry of Almaine, another grandson of King John, and the eldest son of Richard, that king's younger son, who had been elected King of the Almaine. This young prince being at Vereste in Italy, and present at a religious service in one of the churches of Reggio, was captured and assassinated by Guido de Montfort, and slain upon the spot. A general detestation of the crime was felt throughout Europe. Dante has placed the murderer in the Inferno:

He in God's house mourns. The heart still reverenced on the bones of Thomas.

The murderer escaped. Among the rumours of the time was that he was wandering in Norway. This man the Church had a man, who was placed under the ban by the king, requiring that no person should protect, counsel, or assist him; that no person should hold any intercourse with him of any kind, except, perhaps, some little might be allowed for the good of his soul; that all who harboured him should fall under an interdict; and that if any person were bound to him by any oath of fidelity, he was absolved of the oath.

This was promulgated throughout Europe. A papal bull in which the prohibition is set forth still exists among the original records at the chapter house of St. Peter's. The copy of it is in Remy's Frederic. The pope uses the very expression forbanientur: "Guidoinem etiam bannantur." This species of bannings is what is meant when we read of persons or cities being placed under the ban of the republic, a phrase not unfrequently occurring in the history of Germany. Persons or cities who opposed themselves to the general voice of the confederate were by some public act, like those which have been described, cut off from society, and deprived of rank, title, privileges, and protection.

It is manifest that out of this use of the word there has sprang that popular sense in which now only the word is ever used among us, as well as the Italian bandiera. French bannire and English banish have only preserved the popular sense.

In some parts of England, before the Reformation, an inferior species of bannings was practised by the parish priests. 'In the Marches of Wales, says Tindal in his geography,
the Roman Church, entitled The Obedience of a Christian Man. 1534, "it is the manner, if any man have an ox or a cow stolen, he cometh to the curate and desirith him to curse the stealer; and he commands the parish to give him, every man, God's curse, and his; " God's curse and mine have he said. the exasperation in the parish. But now it is different. In 1299, the dean of St. Paul's accursed at Paul's Cross all those who bad searched in the church of St. Martin in the Fields for a board of gold. (London, p. 333.) Tyndal argues against the destruction of the church as going against the communicative power in general. Yet something like it still retained in the Commission Service of the English Church.

In France the popular language has now been influenced by the substitution of the word ban to the same extent as with the English. With them the idea of publication prevails over that of denouncement, and they call the public cry by which men are called to a sale of merchandise, especially when it is done by beat of drum, a ban. In time of war a proclamation through the ranks of an army is the ban.

In Artois and some parts of Picardy the public bell is called the ban-louque, or the cloche d'as, as being rung to summon people to their assemblies. When those who held of the king marriage contract, to attend him in his wars, they were the ban, and tenants of the courts of barons. No ban; and out of this feudal use of the term arose the expressions four d'as ban, and moulin d'as ban, for a lord's bakehouse, or a lord's mill, at which the tenants of a manor (as is the case in some parts of England) broke their bread, or ground their corn. The banlieue of a city is a district around it, usually, but not always, a league on all sides, through which the proclamation of the principal judge of the place has authority. A person submitting to execute the orders of the army is a ban, and who returns home without a recall breaks his ban.

The French use the word as the English do, when they speak of the ban, or, as we speak and write it, the bans of marriage. This is the public proclamation which the law requires of the heads of the parishes in the marriage covenant. The law of the antient French and of the English church is in this respect the same. The proclamation must be made on three successive Sundays in the church, during the time of the celebration of public worship, when it is presumed that the whole parish is present.

The intent of this provision is two-fold: 1. To prevent clandestine marriages, and marriages between parties not free from the union of the parties for the marriage contract to be legitimate. 2. Save the contracting parties from precipitancy, by which provision is appropriated to suffer some weeks to pass between the consent privately given and received between themselves and a public act, according to the law. It is nowhere found that, in that case a license is obtained from some person who is authorized by the bishop of the diocese to grant it, by which license the parties are allowed to marry in the church or chapel of the parish or parochial chapel in which either of them resides, in which marriage are wont to be celebrated, without the publication of bans. The law, however, takes care to ensure the objects for which the publication of bans was devised, by requiring oaths to be taken by the party applying for the license, and certifying of consent of parents or guardians in the case of minors. Special licenses not only dispense with the publication of bans, but allow the parties to marry at a less period of time than the public act, and are granted by the archbishop of Canterbury, in virtue of a statute made in the twenty-fifth year of King Henry VIII., entitled an act concerning Peter-Pence and dispensations.

It is not known when this practice began, but it is undoubtedly as old as the church. It is now confined to the passage of Tertullian. Among the innovations introduced in France during the time of the first Revolution, one was to substitute for this oral publication a written one. It is now proposed, and tried at the doors of the town-hall, or in some public place, during a certain time. But when it is considered how liable these bills are to be torn or defaced, and the questions which may arise in consequence, it would seem that it is not a mode which has so long been established in Christian nations.

BAN, BANUS, or BANNUS, derived from the Sclavonian ban, a chieftain, is the name given to the governors of certain military districts in the kingdom of Hungary, in Sclavonia, and Croatia, who is the representative of the sovereign, and in virtue of his office, takes the command for the defence of those districts in time of war. A district, over which such a ban is placed, is called Danube or Banat. There are two of these banates in Hungary, the one, lying between 45° 10' and 45° 15' N. lat., and 20° 2' and 22° 32' E. long., is called the Hungarian Banate, which comprehends the three south-eastern circles of Transilvania,部份为 Battaglia, and the Banat of Novo, which forms part of the military frontier of the Danube and the right bank of the Thes. It contains a surface of about 1200 square miles; 165 towns and inhabited places; two districts where the Banate regiments are stationed; and it has a population of about 15,000 souls, rising a year from 1799, from 129,222 to upwards of 150,000. The military head quarters are established at Temesvar. Between the south-western borders of the Hungarian Banate and the Danube lies the other banate, or the German Banate (Deutsch-Banat), which forms part of the military frontiers of Austria, and has an area of about 1570 square miles; it is therefore termed the Banate Frontier. A whole regiment is raised and recruited from this district; the population of which has risen from 61,800, in the year 1799, to nearly 24,000, in 1820. The Banat ranks in the corps stationed at Pancova in the Temes. Besides this town, it contains about fifty larger or smaller villages, some of which have 1500 and 2000 inhabitants. [See Hungarian BA

BANAL and Great Banal Frontier. The Great Banal Frontier is part of the Austrian military frontiers, which is situated in that sub-division of them called the Croatian Frontier, between 43° and 45° 32' N. lat., and 15° 50' and 16° 35' E. long., it consists of two regiments of foot, and two of horse. Regiments, which lie on the southern bank of the Save, and extend between that river, the Kulpa, and the Unna; the confluence of the last river with the Save forms their most easterly point. They occupy an area of 1061 square miles, with a population of about 126,900 souls, and contains 543 towns and villages. The staff of the first Banal has its head-quarters at Gliena, on the river of that name; and that of the second, at Petrinia and Castainicza, the former a large and distinctly-circumscribed town. First the original Banal Frontier, the majority of the inhabitants are Croats, consisting of about 40,000 adherents of the Greek and 86,000 of the Armenian persuasion. The face of the country presents a succession of gentle activities and spacious plains: The former are cultivated as vineyards, and produces about 57,000 gallons of wine. The pasture-lands occupy about 15,800 acres, which support about 8000 horses, and considerable numbers of cattle, sheep, and swine. The whole country is so well watered that the industry is represented as being yet in its infancy. Some trade with Turkey is carried on through Castainicza and Radaseshta, in the first Banal Regiment. The Banal Frontier was formed in the course of the year 1695, during the reign of the Emperor Leopold I.

BANA'NA. [See MUKA.]

BANBURY, an antient borough and market-town, situated on the west side of the river Cherwell, near the northern extremity of the county of Oxford. The limits of the old borough, as well as those of the parishes comprehended in the electoral and the bishop's manor, comprehends the township of Netheamp, with its hamlets of Calthorp, Wickham, Hardwick, and Nestingham, all situated in the hundred of Banbury and county of Oxford; and the hamlets of Grimsbury and Nethercote, in the hundred of the same, and in the county of Northampton. All these members of the parish have been added to the parliamentary borough by the Reform Boundary Act. Banbury is sixty-four miles N. of Oxford. The name of the place, according to Camden, was Banbayr: it stands in Domesday-book Banbeirye. The name has been supposed that the great battle between the West Saxons King Cynric and the Britons, a.d. 556, was fought at Banbury, but to that effect there is no claim to be the site of the same event. Roman coins were frequently found at Banbury before the time of Cam-
den; and a Roman altar, discovered long ago, was preserved under an arch in the street, near the present Old George Inn, thence called in old writings the Chaucer Inn. The Old post Office building is standing within the memory of a few persons now living, and is described as a piece of stone-work eight feet long, supporting an arch about ten feet high, within which arch was placed the London-Dover stage. Thomas Stukeley and others placed the Roman station, Brinman, at Banbury; but that station was on the Portway, which led from Alcester (in Worcestershire) to Icenavara (Burnt Walls, near Daventry); and the line of this road has been removed to a considerable distance, three miles to the eastward of Banbury. Brinman is therefore placed with great probability at Black Grounds, near Chipping Warden, six miles distant. Roman remains have, however, been discovered, not only at Banbury, but at several places in the vicinity.

In the year 1125, or soon after this, the town was strengthened and walled by Alexander, the famous Bishop of Lincoln, to whom the manor belonged. In 1139 this prelate, being taken prisoner by King Stephen at Oxford, was compelled to resign Banbury and some other forresses; but it was shortly afterwards restored to the see, and is frequently mentioned as the occasional residence of some of the bishops. In the year 1575, a battle was fought near Banbury, between the forces of Edward IV., under the Earl of Pembroke, and a great body of insurgents from the north of England, whose rebellion had been fomented by the king-making Earl of Warwick. Before the battle, the Lord President at Banbury between the Earl of Pembroke and another nobleman, Lord Stafford, who held a high command in the royal army, in consequence of which the latter lord quitted the town with his numerous archers, and the Earl of Pembroke, weakened in his resources, was defeated the next day, with immense loss, and he and his brother, with ten other gentlemen, being taken prisoners, were beheaded at Banbury. In the first year of Edward VI., Bishop Holbech received the streets and buildings of Banbury from Elizabeth, and granted the castle to the Saxe and Scie family, who resided at their neighbouring castellated mansion at Broughton. In the same reign, Banbury Cross, so celebrated in nursery rhymes, was destroyed by the puritans, who then formed a prominent party at Banbury. The road of the inhabitants in the cause of the commonwealth has been often mentioned; but although the castle was defended by 800 infantry and a troop of horse, it surrendered a few days after the battle of Edgehill, in 1642. Being garnished by the king, it afterwards stood several attacks, including two desperate sieges in 1644 and 1646. On the former occasion it resisted every attack for fourteen weeks, when at length it was opportunist relieved by the Earl of Northampton, but not before the garrison had suffered themselves and their horses, of which only two remained. On the other occasion the castle was besieged by the famous Colonel Whalley for ten weeks, and only capitulated on honourable conditions after his general had surrendered himself and his Scottish army. For this service Colonel Whalley was rewarded by the parliament. Not many years after this the castle was taken down by the parliament, to prevent its again becoming a strong hold for the royalists in a puritan district. Nothing now remains of it except the name, and the several portions of the moat and of one of the walls, upon which last a cottage has been erected. The rest of the site is occupied as garden ground.

Banbury Cross. This building is a large, prominent building, but the first year of Queen Mary a large building was erected as a royal residence, for the services of the inhabitants against John, Duke of Northumberland, who maintained the claims of Lady Jane Grey. James I. confirmed and extended the charter; and a new one was granted in 1616, which vested the municipal government in a high steward, recorder, twelve aldermen, six capital burgesses, and thirty assistants, with other officials. All vacancies were to be filled up by the election of two aldermen and six capital burgesses in common elections the following year. The mayor, and election of whom the votes of the assistants were also to be taken. There is no evidence of the return of a member of parliament previous to the date of the first charter; but standing for Banbury on the old register, a private resident, was returned. He was a member of the national schools at Banbury, and at present there are about 100 boys and 75 girls, besides occasional scholars on Sundays.

Banbury has long been noted as a thriving place of trade, and as being remarkable for its cattle market, which is held every Wednesday. The market is held in a large field near the town, and is well supplied with cattle from all parts of the county. Banbury is also noted for its cheese, which is of excellent quality, and is much in demand. The market is well attended by dealers from all parts of the country, and is a lively and bustling scene. The town is well supplied with shops and workshops, and is a centre of a large trade. Banbury is also noted for its beautiful gardens, which are well kept and maintained. The town is well supplied with water, and is well drained. Banbury is a pleasant and comfortable town, and is much in demand by visitors and tourists. The town is well supplied with shops and workshops, and is a centre of a large trade. Banbury is also noted for its beautiful gardens, which are well kept and maintained. The town is well supplied with water, and is well drained. Banbury is a pleasant and comfortable town, and is much in demand by visitors and tourists.
The Dissenters have several large and efficient Sunday and evening schools at their respective chapels, and altogether the different schools afford instruction to nearly 800 children. There are besides in the town two excellent charitable schools, a savings' bank, a subscription library, and other useful and benevolent institutions. The excellent old grammar-school kept in a building adjoining the church-yard was suffered to fall into disuse a long time ago. The building was gone into the ground, and it was provided that no one should let it for 4l. a-year, and apply that amount towards the support of the national schools. Of land or other endowment from which funds were supplied for the support of the Dissenting schools, it is impossible to speak.

The population of the old borough has gone on increasing in the following manner:—In 1801, 2755; in 1811, 2841; in 1821, 3396; and in 1831, 3737. But these numbers do not give the population of the connected towns, which includes hamlets. In 1811, 5673; and in 1831, 6422.

The criminal jurisdiction of the borough extends to capital offences, but no instance of an execution has occurred since 1747. The magistrates hold a petty session every Monday; and general sessions, at which the recorder or his deputy must preside, are held twice in every year. The corporation also have the privilege of holding a court of record, which, although of less importance, wherein the debt or damage does not exceed 40l., may be tried. At the last return the population of the old borough, and all the hamlets, of the parish church, in the hamlets. The population of the parish, was, in 1821, 5673; and in 1831, 6422.

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to Ho. and; but the great bulk of their purchase was
sent to China, where Banca tin is preferred to that of
Europe.

The collections of tin, made subsequently to the cession
of the island to the East India Company, were—
[Table]

being an average of somewhat less than three millions
of pounds annually. The profit derived from the sale
of tin in those years was more than provided for all
the charges of government on the island; and, in fact, left a surplus, or
more, than the amount of the annual expenditure. The tin mines were
unoccupied; but all the lands, both cultivated and uncultivated,
were devoted to the supply of tin, in its various manufactures, to
Europe. The revenue increased with the demand for the tin of
Cornwall.

Except during the four months, from May to August,
inclusive, when the south-east monsoon blows, rains are
very frequent on the island, especially from November
to February inclusive, and rarely in the season of the north
west monsoon. In the other four months of the year, the
weather is unsettled and squally. Thunder-storms are
frequent, and lightning is observable on half the evenings
during the year.

By his judicious management of Banca is generally healthy; but some
spots are of a different character. When the English first
took possession of the island, an attempt was made to form
a settlement at Tanjong Kalsem, a beautiful and desirable
spot on the western point, and only three miles from Minto;
but, in that place, the soil was not of such a kind, the place, the
intention was necessarily abandoned. In the interior parts,
the action of the sun upon the gravelly soil renders the
heat oppressive during the day, but the nights are usually
cold. The thermometer varies from 76° to 64°; and scarcely
ever exceeds 80° in the shade.

There are various kinds of fine timber in the woods,
some of which are employed in building. Ebony is
abundant on the north coast. Large quantities of this wood
are sent to Palembang for sale to the Chinese traders.

The only quadrupeds found in a state of nature are deer
and wild hogs; and these are not numerous. Insects are
very numerous, and there is an abundance of snakes;
some of these are small and venomous. Fish and pork are
poorly abundant on the island; and, under the influence
of the climate, food, and some fruits, are conveyed from the opposite coast
of Sumatra. Some rice is grown in the interior, but not
sufficient for the island consumption; and large quantities are
imported every year by the government.

The population of Banca is made up of Malays, Chinese,
and indigenous islanders. By a census taken under the
British flag, the total number of inhabitants, exclusive
of the few Europeans connected with the government, was
13,413; of whom

2771 were Malays, of all ages and both sexes.
4651 Chinese.
6051 native islanders, called Orang Goomong.

Almost all the laborious occupations are performed by the
Chinese; the Malays being extremely indolent, and the
Orang Goomong living dispersed over large tracts of
country, and thinly scattered, nearly, in a state of nature, and
averse to all restraint or habitus of life.

(See Marsden's Sumatra; Raffles' Java: Stavrinus' Imerages; Cour 's Exposition of the Relations of the British Government with the Sultan of Palembang.)

BANCHUS, in entomology, a genus of the order Hymenoptera. See Chrysonotidae.

BANCO. [See Bank]

BANCOFF, RICHARD, Archbishop of Canterbury in the reign of James I., was born at Plymouth, in Lancas-
ter, on September 9. His father was John Bancroft,
his mother, Mary, daughter of John Curwin, and niece of
Hugh Curwin, Archbishop of Dublin. He was the first
student of Christ's College, Cambridge, where, in 1587, he
took the degree of B.A., and thence removed to Jesus
College, where he was graduated B.A. Then he was
presented to the rectory of Tewerham, in Cambridges-
hire, by Sir, Bishop of Ely; and instituted, in 1584, at
the presentation of the executors of Henry Earl of South-

BANCOFF, filled the see of Canterbury with great reputation;
he was a learned and erudite man, an excellent preacher, a great statesman, and a vigorous governor of the
Church. He was, however, rigid in his treatment of the
Puritans, and on that account has been spoken of with
some severity. He was the chief overseer of the last trans
plantation of the Bible. By his will the Church of England
intended to be buried in Lambeth Chapel; and all the books in his
study to the archbishops for ever. His remains were, how-
ever, interred in Lambeth Church. (See The American
Biography, 1787, vol. i. p. 377; Wool's Facts on ch.
Lambing-Kennedy, Philadelphia, 1802; Godwin, vol. ii.
283, ed. 155, 157; Chalmers' Biogr. Dict., vol. ii. p. 461.)

BAND, in architecture, a flat moulding, with a vertical
face slightly projecting beyond the vertical or curved line
of an arch, niche, or part of a building thus
attached. It is very extensively employed in chairwork,
and is used apparently to bind parts of buildings together,
as in the bands which are employed to bind the
mouldings of a Doric architrave. (See TRIGLYPH.)

This moulding is often used in the interior of buildings, as the
fillet, [see BAND.] where it becomes a bold and
striking feature: (see the published designs of Palladio,
Vignola, Scamozzi, and others.) It is for the most part
plain, though sometimes enriched. The term band
is, however, in modern architecture, used in a different
sense, as the name of a raising to the flat of the
floor, or of an arch or ceiling, which is not intended
that there should be any direct communication between the
bands and the floor above.
first authenticated visit made by Europeans was by a squadron of Portuguese, sent by Albuquerque from Malaca in 1511. That nation did not, however, appear in force to take possession till 1521, from which time they maintained a precarious footing for about twenty years, during a long period of anarchy and hostility. The hatred of the natives to the Portuguese readily induced them to join the Dutch in their expulsion; but they soon found they had but changed masters. The islands were then occupied by the Dutch, and in 1604, as a result of this change, in which time the first English vessel had arrived from Bantam under Captain Keeling. The Dutch, however, claiming the monopoly of trade, and being greatly superior in force, asserted the English so much that they could scarcely obtain a footing. They were eventually ejected from the island by the English, their ships continued to trade with the natives, though under very disadvantageous circumstances. In 1616 Rotunba Island, the most barren of them all, having been made over to the English, an expedition was sent from Bantam, which established a fort and factory there. This rivalry naturally led to many quarrels, in all which the Dutch, being the stronger, succeeded in gaining the advantage; but in 1619 it was agreed by treaty that England should have the islands, or nearly the islands, a privilege, however, from which the Dutch contrived entirely to exclude the English. The Bandanese made various attempts to resist the hard terms imposed on them, as well as other islands in these seas, by the Dutch, who, by dint of coercion, retained their hold on them; the Bandanese were then, like the English, by the Dutch without resistance, but were restored to Holland by the treaty of 1631. In September, 1811, they were again taken by the English, and once more restored in April, 1816.

These islands produce the nutmeg almost exclusively, whence they are frequently termed the Nutmeg Islands in contradistinction to the Ambonias, which yield the clove; from the nutmeg and mace the natives extract an oil as an article of trade. Their imports consist chiefly of rice, cloth, salt, pepper, and molasses. At the time of their being first visited by Europeans, these islands were governed by an aristocracy of their own chiefs or Sultans.

The Bandas are subject to earthquakes: on Gonong, the highest summit, there is a vacuole, a vent, rising to the feet high, constantly emitting smoke and frequently flame. On Nera is the chief settlement of the Dutch, which was their second government in these seas, and the governor of the islands now resides on it; this locality was selected on account of its approach to the sea, the shore being a flat, with a good road of access. The anchorage is protected by two forts called Beligica and Nassau; and on Bandas, the opposite shore, are a fort and redoubts. All the islands are more or less subject to earthquakes, which shock and terrify the inhabitants, while their houses are not well built, and as a consequence there is no pummelous; but there is no water on it; the inhabitants depend on rain or obtain supplies from the other islands.

Ruswegen is used as a state prison. The nutmeg grows on Banda, Nera, Way, and Gonong, not in the rich soil of Banda, but in the less fertile and less accessible islands, and these islands chiefly raise provisions. The area of the whole group only occupies a space of 190 square miles. Banda Island forms a right angle five miles north and south, and six miles east and west, and about two miles average breadth.

The tales about these islands are strong, but not regular; they rise between nine and ten feet. (Madirdo's Travels, i. p. 412, Leyden, 1719: Barros: Comentary on the History of the Indian Archipelago; Horshamburgh's Directions for the Banda Islands.)

BANDE ORIENTAL was the name of that portion of the vice-royalty of Buenos Ayres which was situated to the east of the river Uruguay, and comprehended the present Republican of Brazil. (1822) It included the country called the Seven Missions. Lying between the greater body of the Spanish possessions and Brazil, it was, at the commencement of nearly every war between the Spaniards and Portuguese, occupied by the latter, but at the conclusion of peace, was again, or in part, ceded by the former. When Buenos Ayres declared itself independent of Spain, the whole country belonged to the then vice-royalty of Buenos Ayres; but the continual civil wars by which the declaration of independence was followed in Buenos Ayres, induced the government of Brazil to take possession of the Banda Oriental in 1815. The republic of Buenos Ayres protested against this step, and, as an amicable settlement could be made, a war began between Buenos Ayres and Brazil in 1825, which was terminated by a treaty of peace in 1828. By the articles of this treaty the northern district of the Banda Oriental, or the Seven Missions, was incorporeal with the empire of Brazil, and the larger southern part declared an independent republic, called Republica del Uruguay Oriental. As, however, this country is less known by its present name than that of Banda Oriental, we shall here insert the geographical description of that name.

On the north it extends to 29° 30' S. lat. and is here divided from the Seven Missions, which now constitute a part of the Brazilian province of Rio Grande do Sul, by the river Ibecuy-guaçu. Its southern extremity, which extends to 35° 30' S. lat. is protected by the barrier of the Corrientes, and wide-embanked Plata river. Its western boundary, which nearly reaches 59° W. long., is formed by the river Uruguay, which divides it from the republics of Entre Rios and Corrientes, which belong to the United States of Buenos Ayres. Thus it is inclosed by natural boundaries on three sides. On the east, where it joins the Brazilian province of Rio Grande do Sul, its boundary is also partly natural, being formed by a chain of mountains running north and south, but from 1835 to 1850, the boundary line extends to the south-east, and terminates on the east after cutting lakes Mirim and Manguera. The most eastern point falls somewhat to the west of the fifty-second meridian.

The whole length of the country, from the most northern bend of the Ibecuy-guaçu to the Paso de Asuncion (Sugar-loaf), near Maldonado, is about 380 miles. In the northern part the breadth may extend 180 miles from east to west, and in the southern part, which is much wider, about 300 miles. Its mean breadth of about 200 miles. This would give a surface of 91,200 square miles, or nearly the area of Great Britain. Schiiffer, in his description of Brazil, assigns it to an area of 10575 German square miles, equal to 222,360 square English miles. Its territory is situated on the shore of the Atlantic Ocean, and is a large plain, forming the water-shed between the ocean and the river Uruguay, which is called the Grandi Cohulla. It extends into the Brazilian province of Rio Grande do Sul, where it is called the Serra de Herval. The eastern districts of the Grand Cohulla, which terminate abruptly in the plains about the lakes Mirim and dos Patos at about twelve or twenty miles from their banks, are called Serra de los Tappes. On the west the table-land seems to extend to the banks of the Uruguay, but only in a few of its valleys, and presents the aspect of an extremely hilly country. In these valleys, as well as in those which lie along the southern coast, east of Cape de S. Maria, many fertile tracts occur in which the grains and fruits of Southern Europe succeed very well, but the remainder is only fit for pasture. That portion of the Banda Oriental which extends along the coast to the north of Cape de S. Maria, and about sixty or eighty miles inland, is low, and is a part of a very marshy tract which, for upwards of 460 miles towards the interior, extends from 28° to 34° S. lat., or from the island of St. Catherine to Cape de S. Maria. Nearly through its whole extent it is covered with sand, and intersected by innumerable lakes of different sizes. The greatest part of the province of Rio Grande do Sul, where particular details will be given. It is of very indifferent fertility.

3 A 2
This country, being situated without the tropics, enjoys a temperate climate, resembling that of Spain or Italy; the air is pure and healthy. In the valleys and on the low plains the winter, which lasts from May to October, is less distinctive, and the months of March and April are warmer than any other seasons. The mountains, being of volcanic origin, are covered with snow all the year round. The climate is characterized by its dryness, especially in the south-eastern winds. Frost is occasionally felt in July and August. The high table-land is annually exposed to it, sometimes for one or two months together; but as very little snow falls, the cattle find pasture in the mountains during these cold months.

The principal river is the Uruguay, which originates in that portion of the Sierra do Mar which stretches along the ocean opposite the island of St. Catherina, and runs for a considerable distance under the name of Pelleto or Cuereschewestward, before being separated from the principal body of water by the river, known as the Rio Grande do Sul from the republic of Corrientes. Here it assumes the appearance of a large river, and soon begins to bend its course to the south-west. Numerous small streams increase its waters in this part of its course. In lat. 29° it receives the Ibeceyu, and then begins to flow in a southern direction, forming the boundary between Banda Oriental and the republic of Argentina, and issuing from the sea at Entre Rios. Here it receives the great estuary called the Rio de la Plata, its waters being increased by those of the Rio Negro, which joins it on the left bank. Uruguay is navigable for large boats and small shipping, and falls, called Salto Grande, and neighboring rapids, are separated by a constant fall nearly at an equal distance from the mouths of the Ibeceyu and Rio Negro. About forty miles below the former there is the Salto Chicu, or Little Fall, which again interrupts the navigation of the smaller boats or canoes. The whole course amounts probably to about one thousand miles.

The Ibeceyu rises in the Grand Cochulbas, and first runs to the west, but soon turns northward, and flows in that direction for upwards of sixty miles, after which, having joined the Ibeceyu Mirim (Little Ibeceyu), it again turns to the west and bounded some considerable river, separating part of the Banda Oriental from the province of Rio Grande do Sul. Its current is almost always tranquil, and the stream is navigable nearly to its head. The whole course of the Ibeceyu amounts probably to upwards of one thousand miles.

The Rio Negro has its origin near that of the Ibeceyu, and its general direction is to the south-west. It joins the Uruguay about twelve miles before that river enters the Rio de la Plata, after having run upwards of 250 miles.

Two considerable lakes, lying in the eastern plain, belong in part to Banda Oriental: the largest is the lake Mirim, which signifies "small," having received this name from comparison with the lake Los Posos, which is not far distant to the north, but belongs to the province of Rio Grande do Sul. The lake is forty miles in width, and its greatest width is about forty miles. It lies parallel to the shores of the ocean and discharges its waters into the lake of Los Patos by a channel fifty miles long, wide and navigable, which is called the Rio de los Polos. This lake is 120 miles south of Buenos Ayres, and near this lake belongs to Banda Oriental. The other large lake, the Mangueras, by Henderson called Manghuru, extends between the coast and the lake Mirim. It is eighty miles long and about four broad, and empties itself into the ocean at its northern extremity by a short channel called Arroio Tahim. The greatest part of this lake belongs to Banda Oriental.

It is not ascertained whether gold and silver are found in this country; but at San Carlos, to the west of Cape de la Plata, a mine is rich enough to work. The reformation of the Uruguay great quantities of lime are exported to Buenos Ayres, and in the same districts potter's earth and timber, or terra-sombras, are found.

The valleys, on the south and west, are well adapted to a great number of products. Wheat, rice, barley, Indian corn, corn, barley, Indian corn, rice, peas, beans, water-melons, and other kinds of melons, with onions, are cultivated; also some cotton, man- does, and the sugar-cane. Hemp and different qualities of flowers are cultivated. The climate is suitable for the cultivation of Europe. Above the middle there is far better than to the north, and none so well as the peach. The vine grows well, and produces abundantly, but hitherto no wine has been made.

Timber is by no means abundant; for from 30° southward it is only on the banks of the principal rivers that any forests of fine full-grown timber occur, the table-land being either bare quite bare, or only covered with shrubs. In some of the latter districts, bones and the excrement of cattle are burnt for fuel.

More than four-fifths of the country being only fit for pasture, cattle of course constitute the chief wealth. The richest proprietors often possess thirty or forty square miles of land, and feed from five to ten thousand head of cattle and upwards. By far the greatest number are those called braco, because they live in a state of wildness. Some cattle are consumed in the country, and others sent to the markets of Buenos Ayres and Buenos Ayres. But by far the greatest proportion is manufactured into jerked beef, which is salted without the bones, dried in the sun, and exported to different parts of America, especially Brazil. Every great proprietor breeds also a certain number of horses, ponies, and mules, and has a great deal of sheeps, which have a fine wool. Neither goats nor pigs are numerous.

Game is very abundant, but the people generally are not very fond of hunting or shooting. Among other species of wild quadrupeds, there are the anta or tapp, the deer, the ounce, the monkey, the paca, the rabbit, the armadillo, the squash, the box, the fox, and some others peculiar to the country. The European species of dog have multiplied so excessively that they live wild in the plains, without homes, and are used for hunting, for which they are called narro dogs. Immediately on the slaughter of cattle coming, or when they want provisions, they assemble in large bands, and encircle an ox, which they pursue with unceasing obstinacy until the animal falls with fatigue, when he is soon devoured. In a short time, ruins some risk in the plains when the dogs are in a state of famine.

Birds are very numerous. In the lakes of the eastern plain there are wild ducks and large wild geese, some geese, some blackbirds, the wren, and a thousand other species, which live down under their feathers, similar to the Aracannah fur. A few other birds of the species found in Europe are also met with, as the heron, the quail, and partridge; but there are other species not known in Europe, as different kinds of parrots, the Macau partridge, the tucan, and many others.

When the Europeans first arrived, several native nations were in possession of this country, some of whom are still found in the interior, as the Charruas, Minauros, Tepe, and Guayananos, and others, in small villages near the coast. The number of the inhabitants are the descendants of Karayampa.

The population is differently stated. Schaffer makes it 175,960; but others lower it to 50,000, and even to 33,000.

The metropolis of the republic will be described under the head of Montevideo. Between it and Cape St. Maria stands the town of Maldonado, with a fine harbour, good fortifications, and about 3000 inhabitants: it exports hemp and copper. Colonias del Santo Sacramento is a small town. It has a harbour, and is frequented by the townspeople.

Along the southern coast there are a few islands, but none of great extent. The largest, called Du Lapin (of the wolves), is not far from the harbour of Maldonado: it is two miles in circumference, and contains good water, but is almost all sand and stones.

The constitution of the República del Uruguay Oriental was published in the month of August, 1830; according to which the legislative power is divided between a senate consisting of nine members, and a house of representatives consisting of twenty-nine members. The Lotes Nacionales is the law of the country. The taxes amounted, in 1839, to 800,323 Spanish dollars, and the expenses of government to 1,013,491.

The country was then divided into nine departments.

(Henderson; Schaffer; Alcedo, Map in Speck and Mar- tius's Traveled.)

BANDAGE is a term employed in surgery to describe the bands or strips of cloth by which dressings are kept in place, some parts of the body being brought together and sewed, or compressed, and weak and protruding parts of the body are supported and retained in their natural posture. Bandages are commonly composed of flannel, canvas, and b, cut into different shapes, according to the parts to which they are applied, and the purpose for which they are intended. Thus the bandage often employed in fractures of the upper and lower extremities, and called eighteen or many-fold bandage, is composed of a longitudinal piece of flannel or linen, with transverse pieces, or tails, to fold over the upper and lower part of the wound. Another form is called the T bandage, and is called the T bandage. But the most common form of bandage, and one available in almost every case, is a being
strip or ribbon of calico or flannel, varying in width from two to six inches. Previous to its application it is rolled together, and hence in surgical language is called rodler, and the application of a bandage is called bandaging. Of late years, ribbons of stocking-net, commonly called elastic web bandages, have been much used, and they appear peculiarly adapted for the purpose, as their elasticity prevents injurious compression, and enables increase of the size of the part to which they are applied. On this, when a single calico bandage or India-rubber, interwoven with silk and cotton, is now frequently employed in the construction of bandages.

The proper employment and management of bandages is an important part of the surgical knowledge of the surgeon and should be learned in the schools of surgery as well as accidents, and in many serious local diseases and deformities, the assistance of bandages is required, and on their proper application the successful issue of the case frequently depends. The great object in the common use of the bandage is to give equal and uniform support to the part to which it is applied, and it is of course essential that it should not be easily displaced or deranged by any movement of the patient. The bandage should be put on firmly, so as not to produce pain, but to afford gentle and easy support; and above all it should never be tight in some parts and loose in others, as by partial compression of a limb mortification is easily produced. An idea of the ordinary manner of applying bandages may be collected from the following Mr. John Gay, vol. i. p. 174:— 'The firmness and neatness of a bandage depend altogether on these two points: first, on the turns succeeding each other in a regular proportion; and, secondly, upon making reverse (a term afterwards explained) of one third and a quarter part, or more, of the varying form of the limb. Thus in rolling from the foot to the ankle, leg, and knee, you must take care—first, that the turns lie one over another by just one-third of the breadth of the bandage; and, secondly, that at every different point, as you roll it on the joint, your hand, make an angle, and lay the roller upon the limb, with the opposite flat side towards it.' Mr. Bell deeply lamented the little attention bestowed on this subject in his time. 'All bandages,' he says, 'are good for regret still exists, as extraordinary cases and great operations present stronger attractions than the common every-day duties of the profession. In many of the continental schools, particularly in Germany, distinct courses of instruction have long been given on bandages, and students are required to practise their application in the presence of the teacher. Within the last year or two, courses of lectures on bandaging have, we are happy to say, been given in London. BANDELLO, or BANDELO. [See Banderas.]

BANDAR, also spelt BUNDUR, BUN_DER, or BENDER, the Persian word for harbour, is in eastern geography frequently met with as the component part of proper names, especially of mixed sea-ports: for instance, Bandar Al-Balad, Bandar Abass, Bandar Gombran, Bandar Lagan.

BANDELLO, MATTEO, was born at Castelnuovo di Serriva, in the province of Tortona, in North Italy, in the latter part of the fifteenth century. He entered the order of St. Dominic, in which he had an uncle, and was an inmate of the Convent della Grazia at Milan at the time that Leonardo da Vinci was painting his famous ' Last Supper' in the refectory of that house. He there heard Leonardo relate a story which forms the subject of one of Bandello's novels, so called, 'The Wife of Count Gobbo.'

BANDICOOT (Perameles, Geo. St. Hilare), in zoology, a genus of marsupial mammals, which appears to occupy, in Australia, the situation which the shrews, tenrecs, and other insectivora fill in the Old World. As this is not self-evident to notice particularly any of the animals belonging to the singular order Marsupialia, it will be necessary, in accordance with our usual plan, briefly to state the principal characters which distinguish this remarkable phylum, and which here and there form analogies which it exhibits, either among its own subordinate divisions, or when compared with surrounding groups. At the time of Captain Cook's first voyage, the only marsupial animals known were the opossums of America, and formed a genus of their own, now called Didelphes, placed among his Feræ or Carnivora; denoting it Didelphæ (double-wombed), from the peculiarity of conformation which we shall presently notice. The discovery of Australian mammals, however, which attended the visit
of the Illustrious navigator above-named to the eastern shores of that new continent, which was completed by the subsequent settlement of the colony at Port Jackson, brought to light many new forms of marsupial mammals, which differed widely from the genuine opposumas, but which were both regarded by the zoologists of the day as candidates for the Dendrophys of Linnaeus, from the single character of their agreement with these animals in the possession of the abdominal pouch. Thus it happened that the Linnaean genus, which the first natural historians had applied to the teeth that were so frequently found in the sands of British soil, and which were called by the popular name of kangaroo mouse, was from the first, and for a long time, a subject of much controversy among naturalists, until the association of the association of various species, differing as widely in habits and formation as in their geographical distribution, and the recent discovery that even the monotypic genus Insectivora of Linnaeus held a position of its own, the whole of the unifying, character of such a system as the original unity of character must be to remodel the entire group. This task was undertaken by Horsfall, Geoffroy, and other naturalists, and under their hands the genus Dendrophys of Gmelin's edition of the Systema Naturae was itself divided into distinct genera, definitely limited, and correctly defined. Zoologists still differed, however, with regard to the situation which these beings should occupy in the way of a class subgenus or a separate order, and the genus Dendrophys of Gmelin had been thus broken up, throughout the various orders of mammals to which they seemed most nearly allied by the modifications of their diet, or other characteristically marsupial. To the name of Marsupialia, or pouch animals, and these latter were again divided in opinion as to the rank which this new group should occupy among the other primary divisions of mammals, whether it should be considered, namely, as a very rapid race, or merely as a family, or the primary subdivision of the order Carnivora. Of these latter sentiments was Baron Cuvier when he first published his Riga Rana, but he subsequently changed his opinion upon this subject, and in the second edition of the work adopts the notion of De Blainville, who is almost disposed to consider the marsupials as forming a class of themselves, equivalent, in point of rank or degree, to mammals, birds, reptiles, and fishes. In a word, says M. Cuvier, it may be said that the class of marsupials forms a group parallel to that of the ordinary quadrupeds, and similarly divisible into orders; so that if both these classes were to be placed in two parallel columns, the opposumas, the dasyures, and the bandicoots of the one would represent the Insectivora with long canines, such as the teetres and moles of the other; the phalangeras and potoros would represent the shrews and hedgehogs; the kangaroo, properly so called, can scarcely be divided with any other animals, but the wombats would form very good substituents for the Rodentia, and the wombats and the marsupial bones, and regard as marsupials all the animals which possess them; the Ornithorhynchus and Echidnus would form a group parallel to that of the Edentata. Thus, M. Cuvier concludes, if we are to form any other zoologist, has adopted these sentiments, to the full extent here expressed; but most, if not all, are agreed in regarding the marsupials as forming an order of themselves, which is usually placed between the Carnivora and Rodentia.

The leading character of this order, and indeed the only one which is common to all the species that it contains, but which is the more marked and valuable from being absolutely peculiar to the group of animals, consists in the abdominal pouch or marsupium, from which the name order is derived, and in which, in a second womb, the young are deposited upon their exclusion from the real uterus. The period of actual gestation in these animals is of very short duration. The production of the young, as compared with other mammals, may be said to be always premature; they are brought forth in an almost fetal state, but are preserved and nurtured by being deposited in the marsupium or abdominal pouch, with which nature has provided them for the purpose. In order that they may not continue to reside till they have acquired sufficient size and strength to go abroad and shift for themselves. Many other singularities of form and habits necessarily result from the peculiar structure. [See MAMMALS.] The animals which more properly form the subject of the present article, the Perameles of naturalists, and bandicoots of the colonists in a name which properly belongs to the great rat of India, Mus giganteus, but which, from a vague resemblance in size and appearance, the early colonists of Sydney applied to the animals at present under consideration, though they agree in the most prominent characteristics of the Marsupia with some of the marsupials, are otherwise so different, both in size and structure, from any of the other animals included in the genus Dendrophys, and in the number, form, and arrangement of their claws and molar teeth, that they are all separately treated in this chapter. The lower incisors, which are very small and situated near the lower jaw, and the external on each side part of the upper jaw, is insulated, and does not, apart from the canine and from the other incisors; it is likewise much larger than the intermediate incisors, and is a form of that of an ordinary canine tooth, of which, indeed, it appears to exercise all the functions.

The hind legs are considerably longer than the fore, and the number and form of the toes are in all respects similar to those of the kangaroos, with a succession of leaps from the hind to the fore feet, but not so very rapidly, nor can they maintain this gait for any great length of time. On the fore feet there are five toes, of which the three middle are long and stout, but the lateral ones are so short that they do not touch the ground, and are connected with only a single phalanx or bone. The hand is of great service in burrowing. The hind feet have but four toes each, and of these the third is the largest of all, whilst the internal are united under the same skin, and appear externally, like a single toe armed with two claws. The foot is very powerful, and can burrow with astonishing facility, and to scratch up the ground in search of roots. They likewise differ from the kangaroos in having a small inner spur, or a fold of skin, above the thumb, upon the hind feet, and in having the last, or ungual phalange of all toes divided in front by a single incision, as in the pangolins and ant-eaters, a structure which gives a much firmer attachment to the class, and makes it easily recognizable. The female in all cases presents the bandicoots are chiefly characterized by being attainted muzzle, short upright ears, lengthened head, and moderate rat-like tails, which are not prehensile, as in the case with the kangaroos, but cannot be held by the animals the power of ascending trees. With regard to the period of gestation, the number of young, and the mode of their introduction into the abdominal pouch of the female parent, we have no observations particularly applicable to the bandicoot. It is only known that they resemble the other marsupials in the premature production of their young, and in nourishing them for some time afterwards in the abdominal pouch of the mother, and that this pouch contains the mammary organs for that purpose.

The two species of the genus Bandicota, although imperfectly described, but there are various indications of others, which it is to be hoped those who have the opportunity of observing these interesting animals in their native climates will soon make known. The pretended species, described by MM. Quoy and Gaimard in the Zoological part of their work, under the name of Perameles Broughtoni, is but the young of the common bandicoot (Perameles nasuta). Of the large number mentioned by the same naturalists as having been observed in different parts of the Blue Mountains, and the adjoining plains, I am informed by a recent authority that the only two species of which we possess descriptions.
the colonists to the contrary, that M. Geoffroy's conjecture as to the insectivorous habits of this animal may be at least partly if not entirely true. The common rat, with teeth much less adapted for living upon flesh than those of the bandicoots, is well known to have decidedly carnivorous propensities; and, as M. Geoffroy very correctly observes, it is seldom that analogous forms of dentition fail to indicate analogous appetites.

2. The blunt-nosed Bandicoot (P. oseula, Geoffr.), first described by Dr. Shaw under the names of the porcineopus and dicyphus Oseula, is readily distinguished from the last species by the shortness and bluntness of its ears, and by the broad roundness of its head. The arrangement of the teeth also differs in some degree from that of the long-nosed bandicoot. The external incisors are more nearly in contact with the canines and central incisors on each side of them; the molars immediately succeeding the canines, and answering to the false molar of the carnivora, are contiguous to one another and of a triangular form; and the posterior molars are more flattened on the crowns. This latter character would seem to intimate that the present species was more purely herbivorous than the last, and future observation may probably confirm this conjecture. The colour and quality of the hair and fur are the same as in the long-nosed bandicoot. The specimen described and figured by Dr. Shaw was a young individual of this species, its chief distinguishing mark being the form of the incisors, by which its state of teeth showed to be an old animal, was more than as large again, or a little less than the long-nosed bandicoot. These animals are found both in Van Diemen's Land and on the Australian continent: whether the same species is also found in those localities we have not, at present, the means of determining.

BANDINELLI, BACCIO, an eminent sculptor, created a cavalry by Clement VII. and Charles V., was born in 1497, and died at the age of seventy-two, in 1573. Benvenuto Cellini speaks so highly of Bandinelli, who, in his History, approached very near to the genius of Michael Angelo. Michael Angelo himself, though personally no friend to Bandinelli, spoke in praise of his designs, adding, that his insertion of them in his work was equal merit, that he did not care to have him adopt too hastily and lose a manner. According to Cellini, Bandinelli's temper was arrogant and overbearing. (Vasari, tom. viii. p. 65; Benvenuto Cellini's Memoirs of Himself, chapters i. and x.)

BANDITI. This word, though seldom used by the Italians in our sense, for 'bands of robbers,' is derived from the Italian verb bandire, to banish or put to the ban, whence the participle bandito, banished or outlawed, and the substantive bandit, an outlawed man, outlawed, or outlawed men. Correctly, therefore, the word should not be banditti, but banditii. The term seems to have been introduced into our language at least as early as the time of Shakespeare, but whoever first imported it and confined its signification to robbery, was not without the sanction of the language. It originally denoted a contemptuous or insolent manner; and the word has been used in this sense of the word, which means a man banished on any account, as for political delinquencies or opinions, plots, religious notions, partieše, &c. &c. Thus after Dante and the Ghibelines were expelled from Florence by the Guelfs, there might be called banditi, though they were honorable men, representing a defeated political party or faction, and never robbers. Bembo and other tratisti, or classical writers, who form authority on the subject of Italian language, employ the word banditi for the swearing of political exiles. The great Tuscan dictionary Delia Cruci speaks esiliato as the synonym of bandito, and asilato hamatus as the Latin for both. Some Italian writers of the present day apply the word as we do to robbers; but it is rarely, was not even used by Italian authors of high authority. Giannone, who was the historian of Naples (the country in which these troops of robbers have most abounded in all ages) had to make frequent mention of them, generally, however, called them briganti. But Giannone and other authors, are not, in language. In the south of Italy, the only part of the peninsula where such lawless associations have existed for many years, the robbers are popularly called briganti, and never, by any chance, banditi. The French, during their long and sanguine warfare for the possession of Calabria, called by the name of briganti both those who were professional robbers, and those who were partisans of the Bourbon King of Naples, Ferdinand, whom the arms of the
French had driven out of his continental dominions to Sicily. These organized bands of robbers have been fostered in Italy by the mountainous nature of a great part of the peninsula, by the division of the country into numerous small states, which often enabled the robbers, by crossing a frontier, to put themselves in safety, by frequent revolu-
tions, and by weak governments. In modern days, how-
ever, their excesses have almost been confined to poorer Italy and the kingdom of the Two Sicilies, and to the last few years. Regular or numerous bands of robbers have been unknown in Upper Italy, in Lombardy, Piedmont, and Tuscany, for many years. Their principal haunts in recent times have been the country about the frontier of the Papal States, from the southern parts of the Pontine marshes to the districts of Terracina, Itri, and Fondi; and the valley of the Ponte di Bovino, a narrow mountain-pass, through which runs the high road from Naples, the capital of the kingdom, to the vast plains of Apulia, and the rich provinces of Bari, Lecce, and the Terra d'Otranto. In the first of these positions they were beaten up and almost exterminated by the Austrian troops in 1823; and a little later the valley of Bovino was wholly cleared of robbers. As has been pointed out, these banditti have been people most willingly for the benefit of the robbers since then, but organized societies with their cap-
tains, their lieutenants, and chaplains, have never been again so numerous as they once were, nor have we heard of any band at all like those which, from 1812 to 1823, exercised their calling on the roads and mountains of Italy, and in the mountainous districts to the east of Calabria and in the Alps, and establishing a federal republic, is one of the most astonishing authenticated records of modern times. It presents the picture of a state of things which were not supported by legal docu-
ments, and the testimony of eye-witnesses, would scarcely be credited to have existed in a European country, and only a few years ago.

Those who are curious to investigate the subject of the Bovino, as it is sometimes written, and always pronounced, BANFF, a royal burgh and the chief town of the county of Banffshire, in Scotland, is worth a visit. The town is situated on a small, but picturesque, elevated position, on the east side of the Deveron, near the entrance of the river into the Moray Firth. Its 125 miles nearly one a part of Edinburgh, and 35 N.W. of Aberdeen. The distance from Edinburgh by the road is 163 miles, and from Aberdeen 45. With the latter town it carries on an active intercourse. Banff is generally admired by strangers for the neatness of its appearance. It has several well-built streets, though somewhat antiquated in their style of building; but the town is remarkable for its cleanliness. A water supply was erected into a well-burgh in the year 1372 by Robert II. The privilege of a burgh was granted to it by King were confirmed by James VI and Charles II. The tradition that the place was made a royal burgh by Canmore, being unsupposed by evidence of the kind, is contradicted by intelligent inhabitants. It had once a castle of considerable importance, the ruins of which still exist. It was a constabulary, or a law under the hereditary government of the family of Buchan. Banff was also in the town a convent of Carthusians, or Who.

Over the Deveron there is a beautiful stone bridge of seven arches. The bridge commands a somewhat extensive view embracing Deff House, the old castle of Buchan, which is situated on a rise of land, and surrounded by a forest of trees. Banff has a very handsome church built in 1760, which accommodates from 1,500 to 2,000 persons. The Episcopal church, the Roman Catholic church, the Church of Scotland, the Free Church of Scotland, the Free Church of Scotland, the United Free Church of Scotland, and the Church of England, are all in the vicinity of the town. Banff is a place of worship, but none of these seem to be im-

The town houses, which were built in 1796, have a beauti-
some spire. In the same year a new prison was erected, agreeably to the principles of Howard. There is an excellent academy in Banff, supported by the funds of the burgh, in which every elementary branch of education is taught. There are also several private schools, among the most noted of which are North British Schools. In recent years, since a scientific institution was formed, which, thanks, among other things, to the extent of the place, has been remarkably prosperous. The harbour of Banff is so bad as to prevent many vessels from entering it, and this circumstance, consequently, is much against the town. The place generally consists of corn, cattle, salmon, and herrings. The herring-fishing for the last few years has been carried on to a great extent, and on the whole with success. The manufactures of Banff are confined to thread, linen, stockings, soap, and leather. There are also four branch banking establishments. It has several libraries, of some extent and value, belonging to various societies. Banff has a weekly market on Friday, and four annual fairs. Like most other toasts in Scotland, suffers severely from the destructive floods of August 1829. Part of the town, by the overflowing of the Deveron, was filled with water to the height of four or five feet. Several of the houses were undermined and carried away, and serious damage was done to the public buildings. Of these streets, three of the horses which were running in the royal mail were drowned while attempting to get through the water. The lower grounds around the mansion of the Earl of Fife were covered with water to the depth of four feet.

Like all other Scottish royal burghs, the town council, which consists of seventeen individuals, was formerly elected, and they, in conjunction with the town councils of Elgin, Cullen, Inverury, and Kinmore, had the right of election for the member to serve in the General Assembly. The election took place in each of the towns in rotation. Since the passing of the Burgh Reform Bill, the town council, as in the other royal burghs included in that act, are elected by the 10i. electors, qualified under the statute, and the provost, who, it is given by the charter of the town, is knighted by the Act, the neighbouring town of Macduff has been incorporated with Banff, and both made one burgh, in the election of a member of parliament. Their united constituency is under 200. Peterhead, by the same act, has been added to the Banff district of burghs. In 1831 the population of the town and parish was 3711.

The number of vessels registered at Banff is twenty-four, of which seven are schooners, and the rest sloops or smacks. The town council, which is the manufacturer of the Banff and London Shipping Company have three smacks, with excellent accommodation for passengers, which sail regularly between Banff and London. (Pennant's Tour through Scotland; Cordina's Anti- quities of Scotland; Buchanan's History of Scotland; Population Reports; Boundary Reports.)

BANFFSHIRE, a county in the north of Scotland, comprehending the districts of Strathdon, Boyne, Enzie, Strathkily, Balerno, and part of Buchan. It was a sheriffdom at least as early as the time of King David I. It lies on a long slope between a range of the Grampian Hills and the Moray Frith. It is bounded on the east and south-east by Aberdeenshire, on the west by Morayshire, and on the north by Banffshire. Its area is 1289 square miles, from which 161 have been variously ascertained. According to the latest and most accurate measurement, that part of the county which is bounded by the sea is thirty-four miles in length; from its northern boundary to the head of Glen Avon, where the county is the longest generally runs. It varies from twenty-five to forty miles. Banffshire contains 647 square miles, or, exclusive of a small space covered with water, 413,800 English acres. The face of the country is agreeably diversified with hills and dales, woods and rivers. For about seven miles, from the town of Banff, there is a complete arch of the channel of sand and loam, is excellent, and produces heavy crops. The coast is mostly rocky, but not high. It is impossible, from the irregularity of the hills and mountains, to say how far inland the good soil along the coast generally runs. It varies from seven to eight miles. Here the land is in a state of the highest cultivation. The southern part of the country is mostly mountainous, and is consequently pastoral rather than agricultural. Even here, however, there are many beneficial and fertile valleys. In the upper or hill districts there are large tracts of land particularly suited for grazing. These are for the most part well timbered with natural wood, and abundantly watered by the rivers and streams with which the county abounds. The Spey, which is one of the largest rivers in Scotland, and the most rapid, runs along its western boundaries, and the Deveron waters its eastern outskirts. The river Deveron, at the farthest point from Banff, in the extreme south-western angle of this county. [See AVON.] In some parts of Banffshire, particularly in the mountainous districts, the scenery is remarkably picturesque. Several of the mountains in Banffshire are among the highest in Great Britain. Of these the principal is Ben Cormerg, which is 4089 feet above the level of the sea; Belnanes, which is 2747 feet high; and Knockhill, the Buck of Cabarach, and Corryhabie, which are severally about 2200. Several of the mountains are covered on their tops with regular beds of moss, containing the remains of trees, moss, and vegetables. There are others whose summits of granite protrude through thick beds of gneiss, which passes into mica-slate. The most common rocks in the county are granite, gneiss, graywacke, graywacke-slate, quartz, serpentine, old red sandstone, mica-slate, clay-slate, freestone, and limestone of recent formation. At Portsay, near the coast, is a bed of serpentinite, generally called Portsay marble. There is also a district of granite on the island of Fife, which, when polished, exhibits a variety, some of the most beautiful of which, resemble Arabic and Hebrew characters. In several parts of the county, lead, iron, and other minerals have been discovered, but in no instance have they been worked. In the immediate neighbourhood of Banff there is a large body of common imbedded in flor spar; and about a mile westward of Banff is a bed of blue clay containing various organic remains. Fossil fish, or ichthyoliths, imbedded in nodules, have lately been discovered in the neighbourhood of Banff. Rock crystals and topazes are found on Carngorm, which is much sought after, and brought a high price; but of late years similar stones have been imported from Brazil, where they are so abundant as to enable the merchants who import them to sell them at a hundredth part of the price which they formerly sold for. Rock crystal is found on Carngorm. Hones or whinstones are procured in Balvenie.

The principal towns in the county are Banff, the capital; Cullen, a royal burgh; Keith, Newmill, Dufftown, Gardenstown, Portsay, Buckie, and Macduff. The population of these places varies from 1000 to 3000. Peterhead is the only town in the county. Scotland in proportion to its size, has so many towns and villages. Hence the 10i. voters in the election of a county member are very numerous.

Cowan, a royal burgh. The principal are weaving, bleaching, flax-dressing, tailoring, and distilling. The last branch of industry has, for the last ten or twelve years, been carried on to a very considerable extent, and on the whole with fair profits. The consequence of this has been a great influx of new people, which had previously been very general in the mountainous districts of the country.

The salmon-fishing is carried on successfully in the rivers Deveron and Spey, but especially in the latter. The revenue derived from the salmon-fishing in the Spey is 8000l. per annum; that derived from the fishing in the Deveron is 2000l. For many years past considerable quantities have been exported, chiefly to the London market. The herring-fishing is now carried on along the coast on a large scale. In 1815 there were only two boats, of fifteen tons each, engaged in this branch of business; but for some years past the number of boats of the above tonnage has varied from 400 to 500. Perhaps, with the exception of Wick, it is the most important branch of industry and the most favourable for the herring-fishing as those in the county of Banff. In several instances, along the coast of Banffshire, this branch of industry has been prosecuted with great success; while at every other station fishing has not only been carried on, but has been prosecuted with skill. The quantity of herrings taken in this county in 1826 was computed to be worth 100,000l.

The shipping trade is considerable for the extent of the county. It is chiefly carried on at the ports of Banff, Macduff, Portsay, and Gardenstown. There is a considerable export of grain, meal, black cattle, wine, and other live stock. The imports are, for the most part, timber, coals, iron, &c. The exports of grain have of late years been considerable. In the year ending June, 1831, the quantity shipped for the London market alone was 63,000 quarters.
Agriculture is, in general, conducted on the most approved principles in Banffshire. The Farmers Society, which has now been in existence for many years, has contributed much to the improved system of farming. In the lower districts of the county, the land is well cultivated and abundantly manured. Some years ago the favourite manure was a mixture of lime and bone-dust; but the latter commodity having of late become scarce and dear, the farmers were led to resort to the use of guano, a rich manure brought from the southern parts of South America. Experiments which have just been made, it is believed that kelp, after undergoing a certain preparatory process, will be found an excellent substitute.

The fields, on most of the large farms, are enclosed either with hedges or stone dykes. The latter is very common, and the hedges of the county are of opinion that one-half of it has not yet been brought under the plough. A very large portion of this waste land could never, owing to the sterility of the soil, be cultivated with profit; but there are very large tracts which would admit of the capital being invested in bringing them into cultivation. The spirit of agricultural enterprise has extended itself so rapidly of late, that the quantity of arable land is nearly double what it was twenty years ago. All the farms which are of any extent are under a regular rotation of crops.

The average size of the large farms is from 200 to 250 arable acres, with a certain quantity of moorland or pasture, which varies according to the part of the county in which they are situated. In the district along the seacoast there is very little moorland or pasture; but on a farm in the interior the land is more undulating, and the unenclosed pasture capable of cultivation is often nearly as large as the arable land itself. The rent per acre is, on an average, about twenty-shillings. The leases are generally, as is the case throughout the counties of Scotland, for a term of nineteen years, during which the tenants hold the lease after life. The cattle and stock of every kind are of the best breeds that can be procured.

The lands in the county are almost all under tillage, which greatly interferes with its trade. The principal proprietors are the Duke of Gordon, the Earl of Seafield, and the Earl of Fife.

The climate is variable. Along the coast it is dry and genial, and the crops consequently ripen well; but in the mountainous districts the climate is cold and the harvest in those parts is therefore late. It is considered an early season when the harvest is completed in the upper districts by the middle of October.

In the Enzie, and some other parts of the county, the great majority of the inhabitants are Catholic, but taking the inhabitants of the county generally, perhaps a fourth part of them do not belong to that persuasion. In some of the upper districts the Gaelic language is spoken, but not generally.

Along the seacoast, which is much indented, and has a very bold and precipitous character, the inhabitants are well supplied with coals; but the expense of mailing carriage puts it beyond the means of the population in the higher districts to procure this species of fuel; they are consequently obliged to use peat.

In Banffshire there are numerous noblemen's and gentlemen's seats. The principal are, Gordon Castle, and Glen-Ordie, belonging to the Duke of Gordon; Duff House, Rosehall Castle, and Cullen House, the property of the Earl of Seafield; Birkenhead and Forres Castle, belonging to Sir George Abercromby, Bart.; and Cullen and Findlater, the property of the Earls of Aberdeen and Fife. These last belonged to a family of Douglases; Banff Castle, Cullen House, and Raonas, the property of the Earl of Seafield; Birkenhead and Forres Castle, belonging to Sir George Abercromby, Bart.; and Cullen and Findlater, the property of the Earls of Abercromby and Fife, the elder branch, having conquered Sutherland, became earls of that name, from whom the present Dukes of Sutherland and Normont are descended.

The appearance of antiquity is very numerous in Banffshire. Near Cullen are the ruins of the ancient Castle of Findlater, which stood on a high rock projecting into the sea. It was built, some time in the fifteenth century, by the Gordon family, but was restored in 1590, to its rightful proprietors, by Queen Mary. There are traces of other castles at Deskford, Galval, Balvenie, &c. The church of Morarlich and of Gamrie are also remarkable on account of their antiquity. Morarlich was, for about a century, the seat of a bishop; but King David I. translated the episcopal see to Old Aberdeen, and, as it was formerly poor and ill-provided, conferred on it many lands. The church of Gamrie is called 'the Kirk of Skulls,' from the circumstance of the bones of the fishermen who fell in battle on an adjoining field, called 'Bloody Pits,' having been built into its walls. Though this church was erected in the year 1019, it continued to be used as the parish church of the district till 1830, a period of 820 years.

There are no great rivers or towns in the county. These were the places of interment of the ancient Caledonians, and also of the Norsemen; for they were common to both nations. About seventy years since a very remarkable earthen mound was destroyed at Kinnesswood, near the town of Kinnesswood, and sixteen feet in height. On opening before the earthen mound a stone coffin was found, which contained the skeleton of a human body, quite complete, lying at full length. Beside the skeleton was a deer's horn, which Pennant remarks to have been symbolic of the favourite amusement of the deceased. There is a number of earthen mounds on the Coastal Hill, which some antiquaries think were erected in the memory of the Scotch who were slain in the battle with the Danes which, according to Buchanan, was fought in the year 1138, and in which the Scotch were completely defeated by Indulf, King of Scotland.

Many other places in the county are pointed out at which important battles were fought between the Scotch and Norsemen in the tenth and eleventh centuries; at which period these heroic strains of chivalry were constantly inspired by these northern adventurers.

Banffshire has given birth to a number of distinguished men. Archibald Sharp was born within a mile of the castle of Banff, and had resided for many years in the north of Scotland, as sheriff of the county, distinguished himself in the time of the Covenanters; Thomas Ruddiman, the grammarsian; Walter G. M’Neill, the well-known defender of Queen Mary. Sir James, the astronomer, were all born in the county of Banff.

Banffshire is divided into twenty-four parishes, each of which has its own schoolmaster, church, and clergyman. A considerable part of the county formerly belonged to the See of Aberdeen, and was, from the union, annexed to the archbishopric of St. Andrews. The first bishop of the new see was the Bishop of Moray, and the remainder belongs to the episcopate of Aberdeen.

The parochial schoolmasters of Banffshire, with those of the adjoining counties of Elgin and Aberdeen, have lately drawn up an unexpectet aid to the poor of their parishes, to their meagre by the bequest of the late James Dick, of London. This gentleman, having been born in the county of Elgin, partly educated in the county of Banff, and partly in the See of Aberdeen, and having entirely through the means of his education, raised himself from the poorest circumstances to opulence, left the whole of his fortune, at his death in 1827, to the parochial schoolmasters of these three counties. The amount of the bequest was £12,000; in terms of the deceased will, has been invested in the funds for the purpose mentioned. The parochial schoolmasters of these counties are consequently better provided for those of any other county in Scotland. It remains to be seen whether this bequest will, in its consequences, be of advantage to the ministers of the county of Banff.
the service of the late sultans, continue to reside in the town, where they are one after another betaking themselves to commercial pursuits.

From its central position, Bangalore has routes passing through it in every direction, which circumstance gives it considerable importance, both politically and as a trading station. Its merchants carry on considerable dealings with the Different parts of the South of India. The principal crops, which enter into this commerce are spices, salt, sugar, betel-nut, indigo, tobacco, and cotton. Many of these articles are imported for the use of its manufacturers. The manufactures of the town are almost entirely retained for the use of the district. The silk goods are mostly of a rich texture. The spinning of cotton is all performed by women, who carry their yarn to a weekly market for sale to the weavers.

The population of the city was estimated, in 1811, to amount to 60,000 souls. The travelling distances are, from Bangalore to Seringapatam, 74 miles; to Madras, 215 miles; to Hyderabad, 352; and to Pondicherry, 521 miles.

(PEPPELONI'S Journey through Mysoor, Cera, and Malabar; Rennell's Memoir of a Map of Hindostan; Mill's History of British India; Report of Committee of House of Commons, in 1832, on the Affairs of India.)

BANGANKOK, the present capital of the kingdom of Siam, is on the peninsula, at the mouth of the river Menam, about thirty miles from its mouth, near the 11th parallel, and somewhat more than ten minutes to the east of the 101st meridian.

It is of considerable extent, and consists properly of three parts, the town, the citadel, and the royal palace. The first presents the most curious view to Europeans; both banks of the river are lined by eight, ten, or more rows of floating houses, which occupy the whole length of the town, amounting to three or four miles. These houses are built with very few, and sometimes even with no, foundations. Towards the river they are provided with cavelot platforms, on which numerous articles of merchandise are displayed, as fruit, rice, meat, &c., so that this portion of the town, which may be called a floating bazaar, in which all the various products of China and of the country are exposed for sale. The houses rest on bamboo rafts, which at each end are fastened to long bamboo driven into the bottom of the river. The inhabitants are thus enabled to move from place to place as convenience may require. The houses themselves are, in general, very small, consisting of one floor, with a principal centre room, and one or two small ones; the centre is open in front for the display of their merchandise. The houses are from twenty to thirty feet in length, and about four or five in breadth. They are raised about a foot above the water, and the roof is thatched with palm-leaves. Every house is furnished with a small canoe, in which the occupants carry visits, and go from place to place to transact their business. The houses are inhabited by women, children, and tradespeople, as shoemakers, tailors, &c. At all hours of the day boats are seen passing and repassing between the rows of houses and on the open part of the river, which is a quarter of a mile in width. These small boats are so light and sharp in their form that they ascend with ease against the stream. The form of the houses in this part of the town is chiefly Chinese, and by far the greatest part of them are occupied by that nation.

The land portion of the city extends on both sides of the river to a distance of three or four miles, but especially on the left bank. It is entirely built of wood, except the palaces of the king, the temples, and the houses of some of the ministers, which are constructed of bricks or mud walls. The houses are made of teak, the chief timber used in building, and the little property which the natives possess, render them indifferent to the destructive ravages of fire. From the great length which the city occupies, it might be supposed to be a place of considerable importance; but this is the case. The houses rarely extend more than one or two hundred yards from the river, and much of this space is occupied by fruit-trees. The houses are built on posts driven into the earth and raised above the bank—a precaution not considered necessary in the case of the houses on the left bank. The annual inundations to which the town is exposed. These houses are not disposed in regular streets, for in this country there are few or scarcely any roads or even pathways, the river and canals forming the common highways, not only for goods but for passengers of every description. In boats,
generally a small one, is attached to each house, whether floating or not, for the use of the family. The few streets that are passable only on foot, and in dry weather. The houses themselves contain several small apartments, of which the Chinese always allot the central one for the reception of their household gods. The shops, forming one side of the house, being shut up at night, are covered by a large iron in a low country, but still more or less to its origin, which is of modern date. When the ancient capital of the empire was taken by the Burmese in 1760, and the royal family was nearly destroyed, a merchant of the name of Pia-tac, either himself a Chinese, or one of Chinese extraction, was sent to the court of Siam, and situated considerably higher up the river Menam. Pia-tac favoured his countrymen, who settled in great numbers in Bang-kok; and though Pia-tac was afterwards killed, and a Siamese dynasty followed on the throne, they are still held as the true line of descent, by the Roman Catholics, or the descendants of some Portuguese settled in these parts.

The settlement of the Chinese has been of great advantage to the empire, and to Bang-kok in particular, whose manufactures and exports have been immensely increased in consequence of the trade with them. The town is supplied with a large amount of rice, which is not prepared for this purpose of making shoes, which are scarcely used, but for covering mattresses and for exportation to China. After tanning, the leather is dyed red with the bark of a species of mumma.

Ban-gok is a place of considerable trade. The Menam river is deep up to the town, and even to the antient capitol, Yuthia, to which the largest vessels might come; but for the bar at the mouth of the river, which has only six feet of water upon it at low tides, and from February to September thirteen feet and a half, and the remainder of the year, i.e. in the season of the south-western monsoons and of the flood, the river is navigable for vessels up to 200 to 250 tons. The trade is less conducted by Chinese than by the Malays, and the inter-commrce is carried on with the extensive countries drained by the river, to which is navigable for boats to a great distance from the capital, is also very important.

Bangkok, a city and parish in the hundred of Uwerp-Gyrafi, in the county of Carnarvon, in North Wales. The city is situated at the base of a steep rock, in a narrow valley, near the river Ogwen, and not far from the northern entrance of the Menam valley. It consists of a narrow crooked street, about a mile in length, with several openings from the water side. According to the Rev. J. Evans (Belles-lettres of England and Wales, vol. xxi.) it derives its name from ban, superior, and cor, a castle, which means a better fortified town, and applies to the situation of river, great, to distinguish it from a small village of the same name in the county of Flint. The park is one of very great antiquity, Lland, following the author of the Chronicle of John Harding, says that Bangor was a British priory, ere overthrown by the Danes, and destroyed by the Minerva. The first authentic records, however, respecting Bangor relate to the seventh century. In 1233 Dened, or, according to Pennant, Daniel, here founded a college. The college was destroyed by the Danes, and the present rectory still bears. What the original extant of the college was cannot now be ascertained. The college was raised about the year 530 to the dignity of a bishopric, and the founder was appointed bishop. The present jurisdiction of the bishopric embraces the whole of Anglesey, but
whole of Carnarvonshire, except four parishes: fourteen parishes in Denbighshire, seven in Montgomeryshire, and a part of Merionethshire. It has three archdeaconries—Anglesey, Bangor, and Merioneth. The two former are held with the bishopric of Bangor; the third is the only archdeaconry in which officialities occur: this archdeaconry only includes fourteen parishes, and the archdeacon appears to have no further powers than to visit and receive the annual procurements of the clergy. (See also the Catholic Church in Wales.) The revenues of the Sees of Bangor were valued at 1512. 3s. per annum, or 1312. 16s. 4d. clear; but it is generally supposed that they are now worth at least 1200l. a year. The officers being resident in Anglesey, it is a common practice for the archdeacon, a treasurer, two endowed prebendaries, a precentor, a chancellor, and three canons, with several others of inferior rank.

The cathedral was founded by St. Deiniol was destroyed by the Saxons in 717; but was rebuilt from funds collected by a synod held in 1192 at Westminster, for reforming the church. King John, in 1212, took the then bishop prisoner while officiating at the altar, but releascd him on receiving a handsome ransom. It suffered severely in wars which took place in the reigns of Edward III. and Edward IV. and was again completely destroyed by fire in 1492, during the war which followed the revolt of Owen Glendower. For about a hundred years afterwards, the insurgents of Anglesey knew Bishop Bot. Between 1495 and 1512 the choir was rebuilt by Bishop Dean at his own expense. In 1532 the tower and nave were erected by Bishop Skel- fington, which fact is commemorated by an inscription over the west door. The dimensions of the cathedral, as given by Mr. Rickman (Essay on Gothic Architecture) as follows:

<table>
<thead>
<tr>
<th>Part</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of the cathedral from east to west</td>
<td>98</td>
</tr>
<tr>
<td>Length of the tower at the west end</td>
<td>75</td>
</tr>
<tr>
<td>Length of the nave or body</td>
<td>141</td>
</tr>
<tr>
<td>Length of the choir, which extends entirely to the east end and begins beyond the transepts</td>
<td>62</td>
</tr>
<tr>
<td>Breadth of the nave or body</td>
<td>236</td>
</tr>
<tr>
<td>Breadth of the body and side aisles</td>
<td>60</td>
</tr>
<tr>
<td>Height of the body to the top of the roof</td>
<td>34</td>
</tr>
<tr>
<td>Height of the tower</td>
<td>60</td>
</tr>
<tr>
<td>Square of the tower</td>
<td>24</td>
</tr>
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</table>

Bishop Bulkeley, instead of following the example of his two predecessors, and improving the cathedral, demolished, in 1547, what he had done for its prosperity. He applied to his own patron, the see of Bangor, and obtained a considerable part of the lands which belonged to the see, and even sold the bells of the cathedral. For this sacrilege he was, according to Godwin, struck blind soon after committing it. Thus, in the progress of the religious contention, blindness is, however, generally disregarded, as there are receipts extant which were written immediately before Bulkeley's death, which happened on March 14, 1552. The cathedral is at present in a state of very good repair, for, with the exception of the nave, the aisles, and the turrets, the building has not been altered in any way, and is in a good state of preservation. It is said to be one of the finest examples of Early English architecture in the diocese. This prelate, early in the present century, expended a large sum in repairing and beautifying the cathedral. He also built the harbour, which has proved of so much benefit to the city. The remains of several Welsh princes, with those of a number of bishops and other distinct ecclesiastics, lie within this cathedral. The tomb of Prince Owen Gruffydd is still in a perfect state beneath an arched recess.

The bishop, lord of the manor, has the immediate jurisdiction of the city. The living is not in charge, but is a vicarage, the patronage of which is vested in the bishop. The bishopric is one of the poorest in the country, but the bishops are allowed to hold some good benefices in connexion with their residence. The bishop's palace stands in a low situation below the cathedral. In Pennant's time it was but a very indifferent residence; early in the present century, however, it was greatly improved by Bishop Warren.

Bangor Town Hall, situated on the Ynys, which stands at a small distance from the city. It is a handsome brick building, and was erected and endowed by Dr. Jeffrey Glynn, brother of Bishop Glynn, about the year 1557. The endowment originally was only equal to about 60l. per annum to the master, and 3d. to the usher; but owing to the improvement which has since taken place in land, and the number of bordoms which the master usually has, the situation is now worth from 350l. to 400l. per annum. There are three national schools in the parish of Bangor, and an infant school in the town.

Bangor has also an hospital or almshouses, which was founded early in the seventeenth century by Dr. Rowland, one of the bishops of the place. By that prelate's will, dated July 1, 1616, he bequeathed an estate in the land for the erection and endowment of an almshouse, 'to accommodate six poor old impotent single men, each of whom shall receive 10s. a year, as well as five acres of land for their clothing.'

In the year 1809 a public dispensary was established by voluntary subscription, called The Carnarvonshire Public Dispensary. The management of the committee appointed to superintend the erection of the building, the dispensary was determined on by the gentlemen assembled in Bangor to celebrate the fiftieth anniversary of the reign of George III. Their object was to avail themselves of the occasion to give a decided proof of loyalty to the king, and humanity to their most despicable fellow-subjects. The subscription list was soon filled up, and a small nest building was erected close to the London road. The dispensary supplies the poor with medicine and medical advice.

The trade of the city consists almost entirely in slates, which are taken to Port Penrhyn from the quarries of Llandegai, a place about eight miles distant, by means of a railway made for the purpose. These slates give constant employment to upwards of a thousand workmen, and they produce a large revenue to the proprietor. Near Garth Ferry, in the Menai Strait, there is a fishery of some extent.

The city has three excellent inns, a market-place, and a commodious rooms for the government of the poor, given by Mr. Rickman (Essay on Gothic Architecture). The city is situated on a low plain near the coast, was built by Mr. D. Penman. The present proprietor of Penrhyn Castle, near Bangor, The Independents, the Wesleyan Methodists, and Baptists, have several places of worship in the city. The appearance of the town altogether is handsome. It was a picturesque scene in the greatest degree. A view is supposed to have occupied the whole of the rising ground between the present city and Bangor Ferry, a distance of two miles. Of late the place has been rapidly increasing, both in population and importance, and it is now one of the most considerable boroughs in the Carnarvonshire. The rules and regulations for a member of parliament, having been added to the other by the late Reform Act. Its vicinity to the sea, and the beauty of the situation and surrounding scenery, have brought it into some notice as a fashionable bathing place; and since the erection of the Menai Suspension Bridge many thousands persons have annually visited Bangor. A number of houses have recently been built for the visitors in the summer season, and many tasteful villas have sprung up round the town, which are now considered the fairest and walks around the city are numerous and pleasant. The great road from Dublin to London passes through Bangor. It has four annual fairs, on the 5th of April, the 25th of June, the 16th of September, and the 28th of October. It has also a weekly market, on Friday, which is remarkable for the abundance and cheapness of its provisions: indeed, it is generally allowed to be one of the cheapest towns in the kingdom. (See Warner's Walk through Wales.) Bangor is distinguished as the place in which arose the well-known Bangorian Controversy, which caused so much excitement in the early part of the last century. That memorable controversy had its origin in the circumstance of Dr. Hoadly, then bishop of Bangor, advancing some notions contrary to the tenets of the church, and challenging the spirituality of Christ's kingdom. [See HADLBY.] The eastern part of the city, about three-quarters of a mile from the remains of a castle, which was erected by Hugh, Earl of Chester, in the reign of William II.

Among the interesting objects which are seen from Bangor is Snowdon. The parish of Bangor is five miles in length and four in breadth. The city is 198 miles north-west of London, and nine miles north-east of Carnarvon. By the road it is 396 miles from London. The population in 1831 was 2131, of whom 1893 were females, and in 1851 was 2768 females. (See History of Wales, edition of 1697; Willis's Survey of the Cathedral Church of Bangor; Carlisle's Dictionary of Wales; Pennant's Tour through Wales; Camden's Britannia, by Gough; Beauties of England and Wales, by the Rev. J. Evans; Golwin, De Presbibu; Warner's Walk through Wales; Rickman's Essay on Gothic Architecture; Population Reports.)
BANIONS. The word Banian is a corruption of the Sanscrit bana or bana, 'a merchant,' and is the term by which Hindoo designing foreign merchants for cantile purposes are generally designated. We find Hindoo merchants noticed at an early period during the middle ages in several of the most distinguished trading towns of the East. Marco Polo mentions the foreign traders who visited the fair of Tabriz; and in speaking of Adam he describes it as 'an excellent port, frequented by ships arriving from India with spices and drugs. He was acquainted with the mode in which these commodities were transported to England, and writes that 'about 1300 Arab vessels up the Red Sea, to an Egyptian port (Kosseir); thence, by camels, to a place on the Nile (Kus, afterwards to Kene), and from thence, on boats, down the river to Cairo, and finally to Alexandria. Indian merchants appear also to have settled, during the 16th and 17th centuries, on the eastern coast of Africa: Vasco da Gama, on his first voyage, met with several Indian trading-vessels in the port of Melinde (De Barros, Jau, Dec. i. liv. ii. c.); and it is not improbable that the information which they afforded may have been of material value to the Portuguese navigators in discovering the passage by sea to India. In some of the principal towns of Persia and Arabia, the Banians appear to have sometimes formed a considerable class in society, and to have possessed much political influence. It is related how some of them, under the pretended protection of the nations at Muscat through the treachery of a Banian, who thus resented an insult offered to his family, (Niebuhr, Beschreibung von Arabien, p. 297.) In 1745 there were more than one hundred and fifty Banians at Shiraz, but a new caravanerss was at that time commenced, and was not to be appropriated to their accommodation, in order to enable them to visit Shiraz in greater numbers. Some Hindu are settled as far to the north and west as Astrakhan. (See Aschard, Histoire du Commerce de la Perse, vol. ii. p. 276.) The Banians do not at the present day form a distinct class or caste in India, nor are they accosted as such in the antient Indian law-codes. Some travellers, e.g. Tavernier (Voyages des Indes, liv. iv. c. 3), have used the term Banian with respect to the whole of the castes of merchants, the husbandmen, and mechanics; but this seems unsupported by Oriental authority.

BANÍAN (Haraic, Stephian, Byzant), a town of Fars, time, situated at the foot of a branch of Anti-Lahana, new raised Jebel Henah, the Mount Hirmn of Portuguese, which was the northern boundary of the Children of Israel, and the Pannish of the Romana. Banias is supposed to be on or near the site of the Dan of the Jews. Its name was changed to Cesarea Philippi, by Philip the Tetrarch, son of Herod, when he reigned over the Kingdom of the Emperor Tiberius, to which Philip added his own by distinguishing it from the Cesarea on the sea-coast.

The modern village contains only about 150 houses, mostly inhabited by Turks, but there are also Greeks, Druzes, and Arabs; it is a dependent of.Habbeby, about twenty miles to the northward, whose Kaim nominates the Sheikh. It stands on a triangular shaped piece of ground enclosed by the river of Banias and the Jordan, and backed by the mountains, at the foot of wādī to the N.E. of the village, the river of Banias takes its run in a spacious cavern beneath a precipitous rock. The precise has several niches, in one of which the base of a statue still remains, and each of them had an inscription in the chaligraphic hebrew which are all unintelligible. The largest of these is within the cavern over the source of the river, and probably contained a statue of Pan, as the others may have contained similar dedications to that or other deities. The cavern and Panuncan (Bosan, la Passerelle, la Caverna di Pan, at the western end of the Pennesohr river, which is now called the river Cherif, or 4000 tons burden. It is a small but increasing town, and contains theological seminary, a court-house, and other public buildings. The theological seminary was incorporated in 1811, for the purpose of preparing young men of the Congregational sect, which number had been educated since the foundation was 62 in the year 1833, when there were two professors and six students. It was established in 1828, 1838, 1833, and 1838. //
placed at about four miles N.E. of Banias, near the foot of a
hill called Tel-el-Kadi, where there are two springs, the
larger of which forms at once a river from twelve to fifteen
yards broad, which rushes rapidly over a stony bed, and
passing south of Banias, forms a junction a little below
that village with the river of Banias. There are no rains
upon the springs, but near them is a small village called
Knahel. This stream is still called Dibon: and it is said that
the river of Banias was formerly called Dibon, whence
the name Jordan. But the Hebrew form of the word is
Yarden, not J-e-r-a-n. [See Jordan.]

The ancient road on the north side of the village, where
there is a well-built bridge, and some remains of the
ancient town; but the principal part of the old town appears
to have stood on the opposite side of the river, where the
ruins extend nearly a mile from the bridge. No walls remain,
but groups of an ancient stonework and architectural fragments
are scattered about; there are also some granite columns
entire. On the south side of the village are the ruins of a
very strong castle, surrounded by a ditch and wall; several
of the towers are still standing, and there are five or six
granite columns built in the doorway. From an Arabic
inscription, it appears to have been built about the middle
of the 13th century, during the crusades. About four
miles to the eastward of the village, on an eminence, are
the ruins of another castle, once evidently a strong fortress,
standing on a mound surrounded by a wall ten feet thick,
and flanked with numerous round towers built with equal
blocks of stone about two feet square, and has only one gate on the south side. This
old ruin is called Kassala. It probably dates from the
ruins of many private habitations; and at both western
corners there is a succession of strongly-built low apartments
like cells, dark, vaulted, and provided with loop-holes for
musketry; there are also four wells in this castle full of
water. The Jews who live in the village consider it as
being in the beautiful and richly-wooded plain of the Houle, with
a part of its lake in front, and an extensive range of barren
mountains (the branches of Anti-Libanus) to the northward.
The country is well-cultivated, and abounds in game. The
villages in that part of Syria may still be seen; probably
the Roman road to Damascus.

Banias is about 23 miles E. by N. of Tyre.

(Burchard's Travels in Syria; Pococke's Description of the East; Seezat's Travels; Mangles and Irby; Pliny, v. 15.

BANISHMENT, expulsion from any country or place
by the judgment of some court or other competent authority.
The term has its root in the word ban, a word of frequent
usage in the middle ages, having the various significations of a
public proclamation, a sentence of condemnation, and the
district within it, and a judicial punishment. Hence a person
excluded from any territory by public authority was said to be
banished—bannitus, in bannum missus. (See Ban.)

Banum, Banum, Banum, Pasquier, Recherches, pp. 137, 735.

As a punishment for crimes, compulsory banishment is
unknown to the antient unwritten law of England, although
voluntary exile, in order to escape other punishment, was
sometimes permitted. [See Absolution.] The crown has
always exercised, in certain emergencies, the prerogative of
restraining a subject from leaving the realm; but it is a
known maxim of the common law, that no subject, how-
ever criminal, shall be sent out of it without his own con-
sent; and particularly, as declared by the Great Charter, that 'no
freeman shall be
exiled unless by the judgment of his peers or the law of the
land.'

Therefore, however, not wanting instances in our history of
the irregular exercise of the power of banishing an ob-
oxious subject by the mere authority of the crown; and
in the case of parliamentary impeachment for a misde-
meanor, perpetual exile has been made part of the sen-
tence. When the Company sent Mr. Allen Catecholo, to settle a
report on the island of Bantam, the natives were driven away by the natives. At this time the place
appears to have been subject to the king of Cochinn China.
The next trading with Banjarmassin on the part of Euro-
peans was in the year 1736, when the English East India
Company sent a ship, which was paid for by the Dutch, to
purchase a cargo of pepper. The facilities given by the
native authorities on this occasion do not appear to have
been great, for it was not until 1738 that the ship was
enabled to leave the island with a cargo, for the pricss
demanded for the pepper was too high to afford an indu-
cement for a speedy repetition of the adventure. An
attempt at commercial intercourse was again made in 1746,
when the sultan caused the captain of the ship to be kept
for some time a prisoner, and took possession of his vessel

enacted, that 'such rogues as were dangerous to the inferior
people should be banished the realm; but an instance
occurs in an early statute of uncertain date (usually pur-
immediately after one of the eighteenth year of Edward I.),
by which butchers who sell unsound meat are compelled to
abjure the village or town in which the offence was com-
mited. At a much later period the punishment now called
transportation was sanctioned by the legislature, and has
in other cases been made the condition on which the crown
has consented to pardon a capital offence. In the latter
case, transportation to Port Jackson may be truly described
as the language of Cievo, 'Exulatum, non supplicium, sed
perpetum puerpum servitutem.' [See Exile.]

Banishment, in some form, has been prevalent in the
criminal law of most nations, antient as well as modern.
Among the Greeks two kinds were in use:—1. Perpetual
exile (συγγυρί), sentenced with confine of a certain definite
period, employed as a punishment for crimes; 2. Ostracism,
as it was called at Athens, or Petalism, the term in use at
Syracuse, a temporary expulsion, unaccompanied by loss of
property, and inflicted sometimes upon persons whose in-
hurence, arising either from want of high or eminent merit,
made them the objects of public suspicion or jealousy.

Among the Romans there were three forms of banish-
ment:—1. Religation, which was the mildest form, obliged
the offender to reside in some assigned place abroad, either
for a fixed time; for that purpose, it is surrounded by a wall
ten feet thick, and flanked with numerous round towers built with equal
blocks of stone about two feet square, and has only one gate on the south side. This
castle is called Kassala. It probably dates from the
ruins of many private habitations; and at both western
corners there is a succession of strongly-built low apartments
like cells, dark, vaulted, and provided with loop-holes for
musketry; there are also four wells in this castle full of
water. The Jews who live in the village consider it as
being in the beautiful and richly-wooded plain of the Houle, with
a part of its lake in front, and an extensive range of barren
mountains (the branches of Anti-Libanus) to the northward.
The country is well-cultivated, and abounds in game. The
country for a man to go, but it was directly or expressibly sentence the culprit to expa-
tribution; but by depriving him of every possible means
of living in his own house, it indirectly compelled him to
seek another, and eventually stripped him of the rights of
citizenship. Hence it was that the day of his return from exile was called his second birth-day.

(Heinecc., Antig. Rom. Synagoga, lib. i. tit. 16: Digesta, lib. xviii. ult. 22.)

NINTH is a corrupt term for Baluster (see Balus-
ter). It is used to express the wooden railings enclosing the
stairs of a house.

BANJARMASSIN, a district and town on the south
coast of the island of Borneo, situated in 3° N. lat., and
121° 52' E. long. The town of Banjarmassin, at the mouth of which is a bar which
prevents the entrance of all vessels except small boats, and
even these can only pass in or out at certain states of the
tide. Beyond this bar it has been ascertained that the river
is navigable for at least fifty miles from the sea. It
does not appear that any European has ever proceeded higher
up the stream. Vessels trading to the town anchor in
the harbour of Tombaujou or Tombreau, near the mouth of
the river.

In 1674 the East India Company opened a trade with this
place, which does not appear to have been persevered in at
that time. In 1703, after some previous negotiations, the
Company sent Mr. Allen Cathpole, with several other of the
servants, to settle a settlement on the island; but the river
was driven away by the natives. At this time the place
shows that the river is navigable for at least fifty miles from the sea. It
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as a guard-ship. In the following year the Dutch East India Company entered into a contract with the sultan for the monopoly of pepper in his dominions, and from that time until the conquest of Java, in 1611, the English had no intercourse with the place.

The Dutch settlement at Banjarmasin was maintained from 1747 to 1810, but does not appear at any time during that period to have been in a flourishing state. In the last-mentioned year it was abandoned by Maréchal Daendels in consequence of an insurrection by the inhabitants, and was not re-occupied by him until 1817, when it was ceded to the Dutch, who, it is understood, continued to the present time on friendly terms with the sultan.

Many Chinese reside constantly at Banjarmasin, whence they carry on a considerable trade with China. The imports of the town are principally of piece goods, cutlery, opium, gunpowder, and fire-arms; the produce exported in return consists of pepper, gold dust, wax, camphor, spices, rice, salt, and签订 silk. Some pieces of very superior quality is also procured at this place.

(Stevenson's "Voyages; Raffles's Java; Report of Select Committee of the House of Lords on the Foreign Trade of the Kingdom, 1820 and 1821.)

A few bars of Latin bancus, literally signifies a bench or high seat; but as a legal term it denotes a seat of judgment, or tribunal for the administration of justice. In a rude state of society, justice is usually administered in the open air, and the judges are placed in an elevated situation, but this is not necessarily the case. Ancient Britons were accustomed to construct mounds or benches of turf for the accommodation of their superiors judges. (See Spelman, ad eervum.) It is clear, however, that, in this instance, this distinction between those superior judicial officers who, for the sake of eminence, sat upon a bench or tribunal, and the judges of inferior courts, such as hundred courts and courts of baron, the latter being analogous to the justices pedanes of the Roman law—a kind of inferior judges, whose duties are not very clearly defined, but who are expressly stated to have derived their denomination a pedibus, quod pede plano judicaretur non pro tribunalii. (See Calvin's Lexicon Juridicum, ad vocem Pedanes.)

The Dutch government is the highest authority; the king's judges, or those who were immediately appointed by the crown to administrate justice in the superior courts of common law, were in process of time called judges of the bench, or, as it was afterwards called, justices of the bench. This term, in former times, denoted the judges of a particular court held at Westminster, which is mentioned in records of the reign of Richard I., and must therefore have made its appearance, under the name of bancum or bench, not long after the Conquest. The bench derives its name from its statutory character, being permanently held at Westminster, whereas the curia or aula regia followed the person of the king. (See Maddox's "History of the Exchequer," p. 339.) This institution was the origin of the modern Court of Common Pleas, and the judges of that court retain the technical title of 'Justices of the Bench at Westminster' to the present day; whereas the formal title of the King's Bench judges is the justices assigned to hold personal courts of the King himself. For many centuries, however, the latter court has been popularly called the Court of King's Bench, and the judges of both these courts have been described in acts of parliament and records in general terms as 'the judges of either bench.' (Prior, "Law." 443.)

The bench, therefore, is not the bench, but the bench, or the judges of the Court of Exchequer have never been denominated judges of the bench, though, in popular language, a new baron, on his creation, is, like the other judges, said to be raised to the bench.

The phrase of sitting in banc, or in bench, merely denotes the sessions during the law terms, when the judges of each court sit together upon several benches. In this sense it is used by Glanvill, who wrote in the reign of Henry II, and is sometimes used by certain acts to be done by justices in banc sedentibus. Depositions in banc are days particularly appointed by the courts, or imposed upon them by various acts, when process must be returned, or when parties served with writs are to make their appearance in full court. The day in bank is so called in opposition to the day at nisi prius, when a trial by a jury takes place according to the provisions of the statue of nisi prius. [See Bank.]

BANK—BANKER—BANKING. These three objects are so intimately connected, that it would hardly be possible to give any clear description of them separately. By the term 'bank' is understood the establishment for the purpose of banking on the credit of the person by whom the business is conducted; and the expression 'banking' is commonly used to denote the system upon which that business is managed, and the principles by which it should be governed or regulated. Banking in its all possible forms is the foundation, and is especially in such as are to any great extent commercial, the business of banking is one in the proper understanding and right conducting of which the public generally is, beyond all other businesses, interested. Those controversies which arise, grave, committed by those who are engaged in the business of importing and exporting, or in manufacturing and dealing in goods, are for the most part mischievous only to the parties immediately concerned, and to those with whom they individually hold relations.

But regard to the principles or practice which should govern the trade of banking, extend their evil consequences to a far wider field, and in such cases the mischief cannot fail to be felt in some degree by almost every member of the community.

This fact appears so obvious upon the slightest reflection, that it must afford matter for surprise when we consider in how trifling a degree the better informed among the mercantile body, and even the greater part of those who are actually the discussion of any of these controversies, attempt to gain any knowledge of the true theory of banking; while the remaining portions of the community, as well whose station in life renders attention to matters of business unnecessary, as those whose habits and pursuits do not enable them to acquire a practical knowledge of external and money transactions, with but very few exceptions appears to have considered the question as one with which they have no concern. It is foreign to our purpose to enter at large upon the discussion of any of these controversies, connected with the theory of banking, which a few years since were agitated in a manner which demonstrated how little the subject must have previously been understood, more practical, and, in other respects, well-informed men differed essentially upon some of the most fundamental principles of that theory. In the few remarks of a general nature that may be here offered, our design will principally be to awaken attention to the subject, while bringing forward some of the more prominent facts and circumstances as they have risen and exist, we may be able to afford them the degree of knowledge which will form the best and most practical groundwork for speculative investigations, and at the same time prove a preservative against the machinations which might otherwise be practised to plausible fallacies.

We propose to consider the subject of banks and banking under the following heads:—

I. A brief historical sketch of the origin and progress of banking.

II. An explanation of the objects and general principles of banking, including a description of the various kinds of banks.

III. The history and constitution of the Bank of England.

IV. The art of banking, as carried on by private establishments and joint-stock associations in London and other parts of England, and in Ireland.

V. A description of the Bankers.

VI. Some notes of the banking system followed in the United States of America.

I. Historical sketch of the origin and progress of Banking.—The vague notices which are found in ancient history, both sacred and profane, connected with dealings in money, separate us from a knowledge of the earlier stages of the business, and the details of the various kinds of banks.

The art of banking, as carried on by private establishments and joint-stock associations in London and other parts of England, and in Ireland.

A description of the Bankers.

Some notes of the banking system followed in the United States of America.
would be led to give their attention to the occupation of facilitating the money operations of the rest of the mercantile community. At first this office would doubtless be undertaken for others by the more considerable traders, and a further period would elapse before it would become a separate concern.

It is probable that the necessity for some such arrangement would be first experienced in consequence of the different weights and degrees of fineness of the coined money and bullion which would pass in the course of business between different parts of the state. The principal occupation of the money-changers mentioned by St. Matthew, by whom the sacredness of the Jewish Temple was invaded, was doubtless that of purchasing the coins of one country, and paying for them in the coin of any other, according to the wants and convenience of their customers.

It is likewise probable that they exercised other functions proper to the character of bankers, by taking in and lending out money, for which they either allowed or charged interest (Matthew xxv. 27).

The bankers of Athens appear to have fulfilled most of the functions belonging to the trade. (See Demosthenes against Aphobus, Or. 1.) They received money in deposit at one rate of interest, and lent it out at another; took advanced money on the security of goods, and lent sums in one place to be repaid in another. They likewise dealt in foreign coins, and appear to have occasionally advanced money to the state for public purposes. Some of the Athenian merchants were wealthy enough to have engaged in the business of the great banking houses written by Xenophon on the revenues of Attica, we find a remarkable project for the formation of a bank, the subscription to which should be open to all the Athenians.

The object of this project was to raise a great revenue, by becoming the clearing-house for the security of goods, and its payment by commercial adventurers, and which sometimes reached the exorbitant rate of twenty-five per cent. The grandeur of this scheme of Xenophon, which was intended to place the whole commerce and population of Athens into the hands of a small bankers' corporation, could hardly have been in agreement with the condition of a society in which the element of mutual confidence was but scantily infused. To afford a better chance of success to his proposal, Xenophon endeavored to engage the public spirit of his countrymen in its favor, by suggesting that a part of the great gains which it could not fail to produce might be employed "to improve the port of Athens, to form wharfs and docks, to erect halls, sumus, warehouses, market-places, and inns, for all which tolls and rents should be paid, and to build ships to be let to merchants." (Milford's History of Greece, vol. iv. p. 23.)

The success of the Romans having caused a general increase of trade, and the state, being more concentrated in the imperial city, a necessity arose for the establishment of bankers. These traders were called indifferently by the name of argentiarii, mensariori, numularii, and their establishments received the name of tabernae argentiariae, or mensae numulariae. The government, on the recommendation of a committee, appointed bankers for the receipt of taxes, who in so far acted only as public officers and were of no further utility to the community. Other private bankers conducted money business in Rome in a manner very similar to that now in use in Europe. They were the depositaries of the revenues of the wealthy, who through them made their payments by written orders. They also took in money on interest from some, and lent it at higher rates to others; but this banking business alone, not being held in such esteem as in Greece, Rome, where a great prejudice existed against the practice of making a profit from the loan of money. In the reign of Augustus, a fund was created from the property of criminals which became forfeited to the state, and out of this fund sums were lent to such citizens as applied, and who could give satisfactory security for the repayment. This system was continued, with some modifications, in the succeeding reigns.

During the middle ages, in which commerce and the state are hardly to be said to have existed, there could be no field open for the banking business; but on the revival of commerce in the twelfth century, and when the cities of Italy engaged nearly all their resources in European trade, the employment of bankers increased.

These men carried on their business in the public market-places, or exchanges, where their dealings were conducted on benches, whence the origin of the word bank, from banco,
for irregularity. In the account given by Dr. Adam Smith
of this bank, he says, 'At Amsterdam, no point of faith is
better established, than that for every guilders circulated as
bank-money, there is a corresponding smaller silver coin to be found in the treasure of the bank.'

The city is
 guarantee that it should be so. The bank is under
the direction of the four reigning burgomasters, who are changed
every year. Each new set of burgomasters visits the
master, compares it with the book, receives it upon oath,
and delivers it over, with the same awful solemnity, to the
secrecy which succeeds; and in that sober and religious country,
oaths are not yet disregarded.' This was written in 1775;
but it appeared, when the French invaded Holland, that
direction had been given by the French government to
borrow nearly one million sterling to the states of Holland and
Friesland; and this discovery tended mainly to bring about
the ruin of the bank.

The Bank of Hamburg, established in 1619, proceeds
upon nearly the same plan as that prescribed for the Bank of
Amsterdam. It does not issue notes or discount bills,
but simply receives bullion in deposit. For every bar of
silver of a certain fineness (forty-seven parts pure silver and
one part of alloy), and of a given weight, called the 'mace
of Cologne,' equivalent to 3608.0 Troy grains, the bank gives
credit on its books for 442 lube banco money of account;
and any person having a credit on the books of the bank
may be paid in similar bills. The difference between every 144 lube of banco
money and notes, is less than one-half per cent.,
is applied to defray the expenses of the establishment.
It does not allow any but citizens of Hamburg to have accounts
open in its books. This establishment is understood to be
accepted with the residents of Hamburg. The Bank of
Neuchatel, opened in 1621, was established upon the same plan as a
bank of deposit.

Next in point of date among these establishments, we
find the Bank of England, which was opened in 1694.

As we propose to devote a separate section to the description of
the principles and practice of this bank, we shall not
further notice it in this place.

The Bank of Vienna, established in 1703 as a bank of
deposit and discount, was founded (1791) become a bank of
issue. This institution has now in a great measure lost its
commercial character, and has become an engine of the
government for managing the public debt and finances.

The notes of the Bank of Vienna, which had become the
sole circulating medium in Austria, having fallen to a con-
siderable discount by reason of their excessive quantity,
a new bank was established in 1816, with the two-fold object
of diminishing the paper currency, and of performing the useful
service of a discount business. In 1817 there were
millions of florins (about eleven millions sterling), ten-
elevenths of which was subscribed in paper-money, and the
remainder in coin. The available or trading-capital of
the bank is therefore only about one million sterling; the
paper-money is a guarantee. One of the possible consequences
of these notes is interesting two and a half per cent., payable
in coin. These bonds are not transferable but with the
permission of the government, by whom a sinking fund is
provided for their gradual redemption at fifty per cent. of
their nominal value, upon a plan which, if adhered to, will
effect that object in thirty-six years from its commencement.

The Banks of Berlin and Breslau were erected in 1765,
under the sanction of the state. These banks of deposit and
discount, and are likewise discounting-offices for bills of
exchange.

During the reign of the Empress Catherine, three dif-
erent banks were established at St. Petersburg; these
were never to be found in the treasury of the bank. The
first makes advances upon deposits of bullion and jewels, and
allows interest upon all sums deposited for at least a year. The bank is
carried on for the profit of the Foundling Hospital in St.
Petersburg and Moscow in 1770, issues the government
paper-money, and is in all respects an imperial establish-
ment. The Loan Bank for the nobility and towns advances
money on real security. It is likewise a discount-bank, and
discourages paper. The Bank of St. Petersburg was
established in 1797, advances money to relieve estates from
mortgages, and to provide for their improvement. The
perpetual payment of interest upon its advances is enforced
by taking their estates from the possession of defaulter,
until the entire debt is discharged.

The Commercial Bank of Russia, which was established
in 1818, receives deposits of coin and bullion, and has a
department for dealing in foreign currencies, in the manner of the banks of Amsterdam and
Hamburg. It is also a bank of discount, and makes advances upon merchandise of home production. Its
capital, about a million and a half sterling, is divided
into 90,000 shares, called Bank actions of 1000 shares each.
The bank has re-issued more than 38,000 of these
actions since its establishment, reducing its actual capital by
317,000, thereby giving shareholders a right to adjust their
holdings. This association alone enjoys the privilege of issuing
notes in France. It is besides a bank of deposit and circu-
lation.

This bank is obliged to open an account with any person
who may require it; and is not allowed to charge any com-
mision for the transaction of ordinary banking business.
Its profits result from the use of money deposited by its
customers, from the issue of its own notes, and from dis-
counts upon mercantile bills; but these latter constitutes
their whole business, and for a long time past they have
employed in the safe custody of plate, jewels, and other valuables upon which it
has made advances. The affairs of this bank are managed
by a governor and deputy-governor, who are nominated by
the Czar, and confirmed by the Senate, and are elected from among the share-holders. A full statement (compt rendu) is published every year, which furnishes a
complete exposition of the affairs of the bank; and to this
regulation we may perhaps attribute, in some degree, the
excellence of its management and its present flourishing condition.

The business of banking, as conducted by natives in
the interior of India, is chiefly confined to the issuing and dis-
counting of bills of exchange. Shroffs lend the bills in which they deal are called
Hoodaees. They do not issue promissory notes payable to
bearer. There is a very considerable circulation of
bills of exchange, the interior inland business being principally conducted by
their means. The great banking-houses at Bombay have
branches of their establishments in almost all the principal
cities of Hindostan; and by their means remittances from one part of the country to another are greatly facilitated.

Europeans have not yet undertaken to branch of business,
by which the banks of England and France are so much
esteemed. Some years ago by an English house in Calcutta, to
establish a bank at Bhaubish, but without success.

There were at one time four private banks in Calcutta
managed by Europeans; but two of them have gone
broke, and the third bank issues notes; its circulation
was at one time between 40,000/ and 50,000/ but its
issues have latterly been much contracted.

A government bank, under the title of the Bank of
Bengal, was opened in 1689. Its capital is 500,000/; one-
fifth of which was subscribed by the East India
Company. This bank is said to have proved a great convenience to the
community and the Bengali government, especially in Calcutta, where its notes chiefly circulate. Its establishment
receives deposits, discounts bills, and engages remittance
and country districts, as well as issues its own notes. The
amount of its paper in circulation is about 600,000/ in
notes varying in amount from ten rupees to 2000.

The same is the case with the other banks in
Europe. In 1813 the bank obtained a new charter for five years, but exists now under the sufferance of the
government. The management is vested in nine directors,
three of whom are nominated by the Indian government
and three others nominated in the same manner
by the directors. Natives are eligible to become directors, some of whom are paid for their services. A statement of
its affairs is submitted twice in each year to the proprietors
and sent to the government. This bank has at Calcutta but
one branch. A report of the manner in which Bank
Correspondence is conducted in this country, and documents to natives, who are great adepts at this kind of
dishonesty. Although thus closely connected with the
government, the bank does not transact its money business.
The government keeps its own treasury quite distinct, but
frequently holds a considerable sum in the notes of the
bank.
The average dividend made to the proprietors has been from nine to ten per cent. The stock bears a high premium.

There is a bank at Madras which is altogether a government concern. It receives deposits, discounts bills, and issues notes which have no circulation beyond the limits of the city of Madras. Its business is not of any great extent: it yields an annual profit of about 10,000l. to the East India Company.

Bombay has no banking establishment. Some years ago the idea was proposed to form one, but their suggestion was disapproved by the Court of Directors in London. The reasons for this disapproval are said to have been the danger of abuse; the difficulty of exercising any effective control; and the apprehension that a grant of a charter would lead to the establishment of a necessity of attending to the banking system; on the contrary, it may be confidently affirmed, that no institutions are so well calculated to preserve order and steadiness throughout the country, as a well-directed and rigorously regulated system of commercial transactions. In the past, we have seen and felt the disastrous effects of a want of knowledge in this branch of political science on the part of those who have directed our national bank, one of the most powerful engines of modern times, and it has only been through the discussions and experiments necessary out of those disasters that we have at length brought, so as to be, felt acknowledged and acted upon, sound and safe principles for regulating that trade by which all other trades are principally regulated.

In the celebrated report delivered by the committee of the House of Commons, appointed, in the year 1810, to inquire into the causes of the high price of bullion, and its effect on the circulating medium, we find recorded some of the wildest suggestions that could well be made by any one who had not been gravely put forth and acted upon by what were called practical men. Among others, the governor and deputy governor of the Bank of England, men who, from their station and commercial standing, must have had considerable experience in business, who, it is said, on that occasion in the opinion, that the amount of notes issued by the bank could not in any way operate upon the price of bullion or the state of foreign exchanges; that it was to be stated to the committee, a doctrine of the truth of which they professed themselves to be most thoroughly convinced, that there can be no possible excess in the issue of Bank of England paper so long as the advances in which it is issued are made upon the principle which at present guides the act which restrained the Bank of England from paying its notes in gold, such a doctrine could not have been safely acted upon for many weeks together, and would have brought its own refutation through the low prices of bullion that would have drained the coffers of the bank.

The true principle upon which bank issues should be governed is now understood to be—that the circulation should at all times be kept full, but without any redundancy; and the simple means whereby this state of things, may be determined and regulated are (except on very extraordinary emergencies) offered by the state of the foreign exchanges. Keeping this principle and this indication constantly in view, nothing can be easier than for a powerful establishment like the Bank of England to prevent any recurrence of those disastrous conjunctures which, under the name of panics, have occasionally interfered with the commercial prosperity of the country. The evidence collected by the secret committee of the House of Commons, which, had it been put into the expediency of renewing the charter of the Bank of England, has placed this subject in so clear and questionless a point of view, that it will henceforth be hardly possible for such a conjuncture to take place except through the misconduct of the directors of the Bank. A small corrective, if applied in time, by means of an exchange operation, will always suffice to adjust the currency to the wants of commerce, and to check that spirit of wild speculation which is the ruin of individuals. To such a mistaken conduct of the Bank directors, and which is sure to be followed by wide-spread ruin.

This opinion is not of course meant to apply to political panics, against the evil effects of which it must be obvious, that no prejudice on the part of those who regulate the
The curfew of the country can altogether provide; but such a state of things is unlikely to arise in the present day, and in every succeeding year we may hope that the spread of information among the people will render such an event still less probable.

We cannot choose this part of the subject than by the following quotation from Dr. Smith (Wealth of Nations, vol. ii, p. 69), in his chapter on Money: — It is not by augmenting the capital of the country, by rendering a greater part of that capital active and productive, than would otherwise be the case, that the most sensible effect of banking can increase the industry of the country. That part of his capital which a dealer is obliged to keep by him unemployed and in ready money, for answering occasional demands, is so much dead stock—which, so long as it remains so, is nothing better than a charge to his country. The judicious operations of banking enable him to convert this dead stock into active and productive stock—into materials to work upon, into tools to work with, and into provisions and subsistence to work for: into stock which produces something both to himself and to his country. The gold and silver money which circulates in any country, and by means of which the produce of its land and labour is annually circulated and distributed to the proper consumers is in the same degree the storehouse of the money of the dealer, all dead stock. It is a very valuable part of the capital of the country which produces nothing to the country. The judicious operations of banking, by substituting paper money of a given value for gold, and silver, enable the country to convert a great part of this dead stock into active and productive stock—into stock which produces something to the country. The gold and silver money which circulates in any country may very properly be compared to a highway, which, while it circulates and carries to market all the grass and corn of the country, itself produces not a single pile of either. The judicious operations of banking, by providing (if it may be allowed so violent a metaphor) a sort of waggon-way through the air, enable the country to convert all of its highways into pastures and corn-fields, and thereby to increase very considerably the annual produce of its land and labour.

III History and Constitution of the Bank of England. — This establishment, unquestionably the largest of its kind in Europe, was projected by a Scotch gentleman, Mr. William Patterson, in 1694. The scheme having received the sanction and support of the Government, to whom the whole of the capital was to be lent, the subscription was filled in ten days from its being first opened; and on the 27th of July, 1694, the Bank received its charter of incorporation. This charter provides, that the management and government of the Bank shall be vested in a governor, a deputy-governor, and twenty-four directors, who shall be elected between the 25th of March and the 25th of April every year, from among the members of the company; that no person of full age must be a member of the company; that no member must be a natural-born subject of England, or have been naturalized in any part of the world, except that the Bankers, or their assigns, may for their own names and for their own use, severally, viz., the governor (at least 4000l.), the deputy-governor 3000l., and each director 2000l. of the capital stock of the said corporation; that thirteen or more of the said governors and directors (of whom the governor or deputy-governor shall be always one) shall constitute a Court of Directors, for the management of the affairs of the company; that no dividend shall at any time be made by the said governor and company, save only out of the profits of the said stock on capitation or fund, or by such dealing as is allowed by Act of Parliament. Each director must be possessed of at least 3000l. capital stock of the company. Four governors shall meet annually in April, July, September, and December; and special general courts to be summoned at all times upon the requisition of nine qualified proprietors. The majority of electors present at general courts to have the power of making by laws for the management of the corporation. The said by-laws must not be repugnant to the laws of the kingdom.

The original capital of the Bank, which amounted to 1,200,000l., was, as already mentioned, lent to Government, when the charter was first granted at 4 per cent., and a further allowance of 4000l. a year was made to the Bank. The first charter was granted to continue for eleven years certain, or till a year's notice after the 1st of August, 1703.

In 1697 a new subscription was raised and lent to Government to the amount of 1,000,172l. 10s. 4d., which sum was repaid in 1707, and the capital again reduced to its original amount. In the following year the charter was renewed until 1739; and in 1713 a still further extension was granted for ten years, or until 1742. On the first of July, 1732, the Bank was again incorporated by new charter, with an additional capital of 5,559,992l. In 1792 further subscriptions were renewed, amounting to 3,400,000l.; and in 1743, when the charter was again renewed until 1764, a call made upon the stockholders raised the entire capital to 9,000,000l. A further subscription of 10 per cent. was made in 1760, the date of the expiration of the charter.

The charter was again renewed until 1784; but provisions for the expiration of this term, was continued until 1812, a call of 8 per cent. having been made in 1782. In 1800 the charter was again extended, to the 1st of August, 1833; and in 1816 the directors were empowered to appropriate a part of their undivided profits among the proprietors, by adding 25 per cent. to the amount of their stock. These successive additions raised the capital of the Bank to 14,353,000l., the whole of which amount was, as it was raised, lent to Government. At the last renewal of the company's charter, which was granted in 1833 (Act 3 and 4 Wm. IV. c. 98), a proviso was made for the repayment, on the part of the public, of one-fourth part of the deficit, and a further proviso for the renewal of the charter, some advantage was given by the Bank to the public, in the shape of an advance of money at a low rate of interest, or without any security. At the time of this renewal, the Government for the Bank capital is 3 per cent. per annum.

From its first institution, the Bank of England has discounted mercantile bills. The rate of discount charged fluctuated at first, but was usually between 4i and 6 per cent. In 1697, when it was low, it was reduced to 4 per cent. in 1699, and it was again advanced to 5 per cent. during the panic, in Dec. 1825; but was lowered in July, 1827, to 4 per cent., and has continued at that rate since.

Shortly after its first establishment, the Bank was involved in some difficulties, and was obliged, in 1696, even to suspend the payment of its notes, which were then at a considerable discount. Having received assistance from Government, this difficulty was soon surmounted; and the Bank was empowered to continue its business until 1797, when the celebrated Bank Restriction Act was passed, which will require a more particular notice.

In 1708 an Act was passed, greatly in favour of the Bank of England, declaring that "during the continuance of that company's incorporation it shall be lawful for any person, or any body politic, erected or to be erected, other than the said Governor and Company of the Bank of England, or for any other person whatsoever united, or to be united, in covenant of part or whole participation exceeding the number of six persons, in that part of Great Britain called England, to borrow, owe, or take up any sum or sums of money on their bills or notes payable on demand, or in any less time than six months from the borrowing thereof." This Act continued in force until 1720, when it was partially abrogated, and the Bank was strongly recommended to take care of establishing banks for the issue of notes with more than six partners, at any distance exceeding six or eight miles from London; but these establishments were restrained from having any branch in London, and it was expressly declared that the notes of such banks should be held liable for all the debts of the bank with which they might be connected.

Until a very recent period, it was not doubted that the Act of 1708 had precluded the formation of banks of all descriptions having a capital less than 5000l., and this impression was universally acted upon. Even the discussions which preceded the partial relaxation of the provisos, in 1726, failed to suggest any different views respecting the restrictions, which were renewed for the renewal of the Bank Charter, strong doubts were entertained upon the point as to whether the restrictions was not confined to the forbidding only of banks of issue, and the law allows...
of the crown, having been called upon for their opinion on the subject, gave it as their decided opinion, that banks, protected by the Restriction Act, could be prevailed upon to continue their operations upon a footing which would not lead to the disadvantage of the country. The Restriction Act was, therefore, renewed for a further period, and the war having soon after recommenced, the restriction was again extended until six months after the ratification of a definitive treaty of peace.

The financial efforts of the government had been continued upon a most extravagant scale, and to the end of the war of 1814, the Bank, which had seconded those efforts, and had made no preparation for so total a change of system, procured the renewal of the Suspension Act until the 4th July, 1816. It would perhaps have been ungracious on the part of the government to make the suspension of whose assistance it had been so largely indebted through a series of years, had a refusal been given to the demand thus made by the Bank; but if this question had at any time been settled with the Bank as our public good, we may venture to assert that the Restriction Act would not have been renewed. All Europe was at that time in an unnatural state, equally, but not similarly, with ourselves. The situation of this country was, in fact, the very opposite of that in which all the other powers of Europe were found, where the states were compelled by the operation of the 'Berlin and Milan Decrees' to purchase at enormous prices wretched substitutes for the manufactured goods and colonial produce with which our warehouses were filled to overflowing. It was the interest of the Bank to export credit in the shape of bullion and military stores and foreign productions which we consumed, that had drained us of gold, while the inability to receive our merchandise had obliged foreigners to take returns for the goods they purchased with the precious metals, which they did not want, rather than in the manufactures and colonial produce, by the sale of which, in their own country, they could have made enormous profits. When, therefore, peace returned, and commerce was again allowed to flow freely, the Bank found that the export of our manufactures was at such high prices, for goods which had before been ruinously depressed, and it became impossible to keep the gold out, as it had, under the contrary circumstances, been to retain it within the kingdom.

Had the Bank of England at this time contracted its issues in only a very trifling degree, its notes would have been restored to their full value, measured by the price of gold, a fact which can hardly be doubted if we consider how large a proportion of their depreciation was recovered under similar circumstances in 1816. The amount of Bank of England notes in circulation was 23,944,800l., the price of gold was 50 1/2 per ounce, and the depreciation of Bank-paper consequently amounted to 7 per cent. At the end of 1815, the Bank notes were increased to 28,327,730l., and the price of gold had fallen to 49 6/4 per ounce, so that the notes were depreicated only to the extent of 9t 1/2 per cent. This statement, drawn from documents furnished by the Bank directors to parliament, makes it even doubtful whether any contraction whatever of their issues was necessary in order to restore Bank of England notes to their par value. The rise in value which they actually experienced, amounting to 19 4/3 per cent., or nearly two thirds of their depreication, was due to the fact that the gold content of the notes had been increased more than 18 per cent., by the great quantity of gold poured into the country at the re-opening of our commerce, and no doubt also in some degree by the diminished circulation of the notes of country bankers.

This state of things could not last long. Gold can never continue to circulate in the presence of an inconvertible paper currency, and an opportunity, the best that could possibly have offered for extinguishing ourselves from a false position, and for re-establishing a currency to a sound and healthy state, was suffered to pass away unimproved. The reason for this neglect is sufficiently obvious. The Bank directors, however blameless for the state of things which first caused the restriction, soon found that measure productive of enormous profits to their establishment, and with the consent of the government, who directed the affairs of England at the time of the passing of the Restriction Act seems to have been fully impressed with this necessity, and to have had in view the political convenience of the government rather than the private advantage of the Bank, or the interests of the public as distinct from the government, when, on the second renewal of the Restriction Act, the Bank was prevailed upon to continue its duration until one month after the close of 1814, by a definitive treaty of peace. The period thus contemplated having arrived at the close of 1801, it was found necessary, in consequence of the unsettled state of affairs, to prolong the Act for a further period, and the war having soon after recommenced, the restriction was again extended until six months after the ratification of a definitive treaty of peace.
Except at the very moment of its enactment, the Bank Restriction Act was for some time so little needed for the security of that corporation, that its notes, during the first three years of the system, were fully on a par with gold, and sometimes even bore a small premium. In less than seven months after the suspension of specie payments, the directors of the bank passed a resolution, in which they declared that the corporation was in a situation to resume with safety making payments in specie, if the political circumstances of the country did not render such a course inexpedient. That same year the bank was found to be so convenient and profitable to the Bank, that the wish to recur to cash payments was no doubt abandoned by the directors. In 1801 and the following year, Bank notes, owing to their excessive quantity in circulation, fell to a discount of 7 to 8 per cent. In 1802 the recovery in its value continued until 1810 within 2 or 3 per cent. of par. In the year last mentioned the depreciation occurred which led to the appointment of the celebrated Bullion Committee. The issues of the Bank, which on the 31st August, 1810, were 17,111,290l., had increased to 24,793,990l. in the following year, and on the 31st August, 1810, amounted to 24,793,990l., being an increase of about 45 per cent. in two years—a cause quite sufficient to account for their depreciation. In 1811, however, the discount was diminished to 26s. 6d. and the reduction was discounted at 72 per cent. A further issue again depressed the value of Bank notes, as compared with gold: on the 31st August, 1814, the amount in circulation was 28,368,200l., and the depreciation amounted to 25 per cent. of the nominal value. The cause of this was again shown in relation to each other. In consequence of the material fall in the value of agricultural produce, which took place in 1813 and 1814, such serious losses were sustained by the country bankers in various parts of the country, that in 1814, and the two following years, the supply of gold and the general want of confidence thus occasioned, so far widened the field for the circulation of Bank of England notes, that although the amount of them in circulation increased from 16,941,700l. in 1811, their value relatively to that of gold was nearly restored.

In 1817, having accumulated nearly twelve millions of coin and bullion, the Bank gave notice in the month of April, that all notes of 1l. and 2l. value, dated prior to 1816, might be received in gold. In the September following, a further notice was given that gold would be paid for notes of every description dated prior to 1817. The effect of these measures was to drain the Bank of a large portion of its bullion, so that in August, 1819, no more than 3,595,960l. remained in the hands of the Bank, and an act was passed through Parliament to restrain the Bank from acting any further in conformity with the notices here mentioned.

In the same year the bill was passed, commonly known as Mr. Peel's bill, which provided for the gradual resumption of coinage and the discount in the Bank. The Bank Restriction Act was continued in force until the 1st of February, 1820; from that time to the 1st of October in the same year, the Bank was required to pay its notes in bullion of standard fineness at the amount of 1s. 2d. per mille, from 1st of October, 1820, to 1st of May, 1821, the rate of bullion was reduced to 3l. 1s. 6d. From the last-mentioned day, bullion might be demanded in payment for notes at the Mint price of 3l. 17s. 10½d. per ounce; and on the 1st of May, 1821, the current gold content of the realm might be demanded. The provisions of this act, as here mentioned, were respectively anticipated in point of time, and on the 1st of May, 1821, the Bank recommenced the payment of 1d. in specie on notes specified.

One of the provisions of this act arose out of a suggestion made by the late Mr. Ricardo, which appears calculated to afford every requisite security against the evils to which any system of paper currency is exposed. The effect of this provision, so far as could have been anticipated, was to depress the currency, with the exception of what might be necessary for effecting small payments, by making Bank of England notes a legal tender, with the obligation imposed on the directors to pay them, on demand, in gold bars of the proper amount, if they were not in demand to the amount of one payment. This provision, which was temporarily adopted in Mr. Peel's bill, would effectually prevent any depreciation of the notes, and might have a peculiar good effect in those cases of pecuniary panic, when the greatest part of the business arises from the numerous small amounts of notes, and who, on the plan proposed, would be unable, individually, and without some extensive combination for the purpose, to drain the Bank of its treasures. No good reasons has ever been yet given to the public against the expedience of renewing the charter of the Bank of England, and into the system on which banks of issue in England and Wales are conducted. On the 11th of August following this Committee delivered its report, which was printed at a considerable expense to the Commissioners, founded upon evidence and documents by which it was accompanied, that the public is mainly indebted for the establishment of principles calculated to give such consistent and sound views upon the subject of banking as cannot fail to produce the very desirable results that were the intention of the Commissioners; and the recorded experience of practical men, this paper was of the greatest advantage to the members of the legislature while discussing and determining the provisions of the act which received the royal assent on the 27th of August, 1833, for renewing the charter of the Bank of England—a brief analysis of which act it may be advisable here to insert.

The act provides that no association, having more than six partners, shall issue bills or notes, payable on demand, in London, or within sixty-five miles of that city, during the continuance of the exclusive privileges granted to the Governor and Company of the Bank of England. The association of the above description is to be dissolved by 20 years and the Bank shall continue to hold and enjoy all the exclusive privileges of banking given by the act 37th and 38th Geo. III., c. 28, as regulated by the act 7th Geo. IV., c. 46, any prior or subsequent acts of Parliament, but no other or any other association or body of persons shall have the like exclusive privileges, and any two or more than six persons, may carry on the trade or business of banking in London, or within sixty-five miles thereof, provided they do not borrow, owe, or take up in England, each sum of money not exceeding 200l., or any of their notes on demand, or at any less time than six months from the time of issuing thereof during the continuance of the privileges granted by this act to the Governor and Company of the Bank of England.

Promissory notes of the Bank of England, payable on demand, issued at any place in England, out of London, where the business of banking shall be carried on for or on behalf of the Bank, must be made payable at the place where such notes are issued; and it is made unlawful for the Governor and Company of the Bank of England to issue to any person on their behalf, to issue, at any place out of London, any promissory note payable on demand, not made payable at the place where the same is issued.

Upon the expiration of ten years from the 1st of August, 1834, and upon repayment, by Parliament, of all sums that may be due from the public to the Bank at the time of the expiration of such note, the exclusive privileges of banking granted by this act shall cease and determine at the expiration of such year's notice; and any vote or resolution of the House of Commons, signified by the speaker of the said House in writing, and delivered at the public office of the Bank, shall be deemed and adjudged to be a sufficient notice.

From and after the 1st of August, 1824, unless and until Parliament shall otherwise direct, a tender of a note or notes of the Bank of England, expressed to be payable to the order of any person or firm, may be tendered as a legal tender in any note or notes, which may be tendered as a tender of that amount for all sums above 50l. on all occasions on which any tender of money may be legally tender, as long as the Bank of England shall continue to pay at the rates which the Bank may, from time to time, be compelled to pay in specie.
or notes of the said Governor and Company not made spe-
cial payment or interest on the said Bank; but the said Governor and Company shall be liable to pay and satisfy, at the Bank of England in London, all notes of the said Governor and Company, or of any branch thereof.

No bill of exchange or promissory note made payable at or after the date thereof, or not taking more than three months from the time of such accommodation, shall be subject to any interest thereon or secured thereby, or any agreement to pay, or receive, or allow interest in discounting, negoti-
ating, or transferring the same, be void, nor shall the liabil-
ity of the said Governor and Company to pay or receive any such bill of exchange or promissory note be affected by reason of any statute or law in force for the prevention of usury; nor shall any person or persons, draw-
ing, accepting, indorsing, or signing any such bill or note, or lending or advancing any money, or taking more than the present rate of legal interest in Great Britain and Ire-
land respectively for the loan of money, on any such bill or note, be subject to any penalties under any statute or law relating to usury in any part of the United Kingdom, to the contrary notwithstanding.

An account of the amount of bullion and securities in the Bank of England belonging to the said Governor and Company, and of notes in circulation, and of deposits in the said Bank, shall be transmitted, weekly, to the Chancellor of the Exchequer, being a statement of such accounts shall be consolidated at the end of every month and an average rate of the Bank accounts of the preceding three months, made from such consolidated accounts as aforesaid, shall be published every month in the first succeeding London Gazette.

One-fourth of the debt due from the public to the Bank shall and may be repaid.

A general Court of Proprietors of the Bank shall be held some time between the passing of this act and the 5th of October, and the said Governor and Company shall be provided with the property of dividends and appropriating the sum to be repaid as before-mentioned amongst the several persons, bodies politic or corporate, who may be proprietors of the capital stock of the Governor and Company of the Bank of England on the said 5th of Oc-
tober, and the said Governor and Company shall have a division and appropriation, not inconsistent with the provi-
sions for that purpose herein contained, and in case such general court, or any adjourned general court, shall deter-
mine that it will be proper to make such division, then, but not otherwise, the capital stock of the said Governor and Company shall be reduced from the sum of 14,553,000l., of which the same now consists, to the sum of 10,914,750l., and such reduction shall take place from and after the said 5th of October, and the proportion thereof shall be repaid as hereinbefore mentioned, or by means of the fund to be provided for that purpose, the sum of 3,638,250l. shall be appropriated and divided amongst the persons or bodies politic or corporate who may be proprietors on the said 5th of October, of the said capital stock, and the remainder of said capital stock, and in consequence of the act here recited, is the provision whereby bills not having more than three months to run before they become due are taken out of the operation of the usury laws. This provision may perhaps be considered as the first step towards the entire removal of the law of 25th of April, 1835, which, while it contradicts the soundest and most obvious principles, operates disadvantageously to the borrower of money, and upon these and other grounds has been repeat-
edly condemned by committees of the House of Commons.

The clause which provides that notes of the Bank of En-
land and its branches shall be a legal tender in every part of England, as explained by the act already recited, has excited considerable interest among commercial men, some of whom have—it is thought without sufficient grounds—expressed alarm at the provision. The expression 'legal tender,' although certainly correct, is an unfortunate term, as it seems to threaten the mercantile public with the return of those days of ruinous uncertainty in regard to currency changes. Bills were so frequently defaulted and the banks, when, under the Restriction Act, Bank of England notes were in effect a legal tender in every part of the kingdom.

The only possible effect of an injurious kind which can attend this regulation is that the absence of the banks will render the Bank unable to meet its engagements, the holder of its notes who may chance to be removed one or two days' journey from London or the place where they were issued, may be placed in an unfavourable position for ex-
defitute. This contingency, however, no one contemplates at the present day.

The principal advantage to follow from the enactment is this—that it solves the Bank of England from the ex-
ensive necessity in which it was formerly placed, of pro-
viding bullion to meet every run that might be made upon

From and after the 1st of August, 1834, the said Governor and Company, in consideration of the privilege of exclusive banking given by this act, shall, during the con-
formity of such privilege to the principles of competition, stand as the said 5th of October, 1834, and 25th of April, 1815, to take the oath of qualification in the said charter.

"An act to authorize the advancing for the public service, upon certain conditions, a proportion of the balance remaining in said Bank of England for pay-
ment of unclaimed dividends, annuities, and legacy pre-
cepts, and for regulating the allowances to be made for the management of the national debt."

All the powers, authorities, franchises, privileges, and advantages given or recognized by the said revised act of the 39th and 40th Geo. III., c. 28, aforesaid, as belonging to or enjoyed by the Governor and Company of the Bank of England, or by any subsequent act or acts of Parliament shall, and the same are hereby declared to be, in full force and effect. The provisions of the said Revised Act of April, 1835, are hereby altered by this act, subject, nevertheless, to redemption upon the terms and conditions following,—that is to say, that at any time upon twelve months' notice to be given by the 1st of August, 1835, any part, or the whole of the said Bank of England shall be repaid by par-
liament, of the sum of 11,015,100l., being the debt which shall remain due from the public to the said Governor and Company after the repayment of one-fourth of the debt of 14,865,860l. as hereinafter provided; and upon payment of the sum of 11,015,100l., the said Governor and Company shall be entitled to receive the sum of 100,000l. per annum in the said act of 39th and 40th Geo. III. aforesaid mentioned, together with the interest or annuities payable upon the said debt or in respect thereof, and also upon repayment of all the principal and interest of the said debt which shall be due and payable to and for the said Governor and Company, Exchequer orders, Exchequer Bills, or Parlia-
tory funds which the said Governor and Company, or their successors, shall have remaining in their hands, or be en-
tituled to at the time of such notice to be given, under the said Bank of England Act, 1825, the provisions of which, while it contradicts the soundest and most obvious principles, operates disadvantageously to the borrower of money, and upon these and other grounds has been repeat-
edly condemned by committees of the House of Commons.

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viding bullion to meet every run that might be made upon
all the country bankers in every part of the kingdom, who, under the new law, may pay the demands on them in Bank of England notes, instead of in specie, as they were formerly obliged to do.

The repayment of one-fourth of the debt due from the public to the Bank has been made by an assignment of 3 per cent. stock, which was previously held by the commissioners for the reduction of the national debt, but no division of the amount has yet been made among the proprietors of the Bank capital, who have judged it most advisable to leave the sum thus rendered available as capital in the hands of the directors.

The principal advantage conferred on the Bank by the legislature consists in the restriction that prevents any other establishment, having more than six partners, from issuing notes payable in London, or bills with six months' notices payable in London. Nor is the advantage of this restriction altogether confined to the corporation in whose favour it is enacted. If more than one bank of issue were in operation in London, the spirit of competition with which each would be actuated might render them less prudent in acting upon those inducements which should govern the amount of their circulation. This consideration is of the more importance in London, where the value of the national currency, compared with that of other countries, is finally adjusted by the importation or exportation of gold in concert with similar establishments in other parts of the kingdom. Nor is the advantage of this restriction probably existent between rival establishments thus circumstanced. In the event of a redundant circulation becoming evident, the adoption of a prudent course by one party in contracting its issues would impose a similar restraint upon the others, and, in turn, to that circumstance to their own immediate advantage by filling up the void thus occasioned. Under such a system, the public would be continually subjected to violent oscillations of the currency, the evils of which it would be impossible to estimate.

We learn from the evidence given before the secret committee by certain of the Bank directors, that the principle upon which they proceed in regulating their issues is to have as much coin and bullion in their coffers as may answer the engagements of the Bank at all times, so that the sums deposited as well as notes in circulation. It is difficult to account for the adoption of exactly one-third, as the proportion calculated to secure the safety of the establishment. In quiet and ordinary times, and when care has been taken to limit the circulation within the amount which would injuriously affect the foreign exchanges, to keep so large a portion of profitless capital can never be necessary. Under opposite circumstances, when, by an over-issue of paper, profits are doubled up, the profitable species of remittance abroad, experience shows us that the drain upon the Bank thus arising may and will be carried to an extent far beyond the mere redundancy of currency afloat, and the demand for specie may, in such a case, become so great as to endanger the security of the Bank. Where a vigilant course of management is pursued, a small comparative amount of gold would always suffice to restore the equilibrium when disturbed by the accidental changes of commerce; and when a different system is pursued it is difficult to say what quantity of the precious metals, short of the whole liabilities of the Bank, will be found adequate to that end. The action of the public upon the Bank in 1825, when the largest amount of bullion ever possessed by it was so near being wholly exhausted, proves the truth of this position, and shows the necessity of adopting some less questionable rule than the arbitrary one-third.

The fact that England acts as the agent of the government in the management of the national debt. It receives and registers transfers of stock from one public creditor to another, and makes the quarterly payments of the dividends. For this purpose it employs more than 400 clerks, porters, and messengers, and spends annually $70,000, which is as a sort of protection and a facility to the government; and the annual dividend of the Bank in 1813, received from the public in payment for this service, the sum of $348,000, in which amount of this sum is now debited in the books.

The balances of money belonging to the public are kept with the Bank, and that institution, as the ordinary functions of a private banker. The alteration recently made in the constitution of the department of the Exchequer will add somewhat to this branch of the Bank's business, both as a place of deposit for their money; but as the Bank directors do not give the same facilities to their customers as they receive from private bankers, the proportion of mercantile men who have drawing accounts with the Bank is comparatively small.

Branch banks were established by the Bank of England, in 1826 and 1829, at Swansea, Gloucester, Manchester, Birmingham, Liverpool, Bristol, Leeds, Exeter, Newcastle, Hull, and Norwich. These establishments have now closed. These establishments have not hitherto have been productive of much profit to the corporation, but have proved very convenient to the public. They facilitate the remittance of money between London and the country, and to the commercial men of the country, which previously were attached to those operations. As the Branch Banks do not permit individuals to overdraw their accounts, and make no allowance of interest upon notes in circulation, they are to be considered as little more than the profits of private establishments, whose customers enjoy those advantages. The business of these branches, principally consists in discounting bills, issuing notes which are payable in London and in the place where they are issued, and in transmitting money to and from London. To encourage the circulation of their own notes, these branches are accustomed to discount, at a more advantageous rate than for others, bills brought to them by such country bankers as do not themselves issue notes.

The proceeds of the Bank of England are derived from discounts on commercial bills; interest on Exchequer Bills, of which a large amount is usually held; the interest upon the capital stock in the hands of government, the allowance upon the Bank's bills, the management of the Bank's funds, dividends on stock in the public funds, profit on purchases of bullion, and some minor sources of income. In 1827 the annual dividend was 30 per cent., for the next eighteen years the rate was 41 to 6 per cent.; in 1847 it fell to 5 per cent.; in 1853 to 4½ per cent., which was the lowest rate of profit since its first establishment; from 1857 to 1863 the dividend was gradually increased to 7 per cent., and in 1882 the proceeds of the dividends raised 16 per cent. annually; in 1872 the rate was lowered to 6 per cent., and has so continued to the present time. In addition to these payments, the stockholders have at various times received bonuses to the amount of $6,624,380, or 57½ per cent., upon the subscribed capital.

The expenses of the Bank are necessarily very great. It maintains an establishment of more than 800 officers, clerks, porters, and messengers, and pays to the stamp office upon its notes and bills.

The directors of the Bank of England have always declared and acted upon the opinion that secrecy in regard to an institution is important to its prosperity. To such an extent has this feeling been carried, that in 1838 the directors, after increasing dividends were declared and paid, without the exhibition to the proprietors of a single figure by which such a course could be justified, the simple recommendation of the directors having always satisfied the proprietors as to the policy of preserving this mystery. The secret of the report of the committee of secrecy in 1838 revealed the true condition of the corporation, and it is not likely that the directors will ever again be allowed to involve its proceedings in the same degree of concealment.

IV. The art of banking, as carried on by private establishments and joint-stock associations in London, in other parts of England, and in Ireland.—The Italian merchants, who, under the name of Lombards, settled in London due to the third or fourth quarter of the sixteenth century, formed the greatest part of the money business of the country. They were not, however, bankers, in the modern acceptation of the word, and in fact the business of banking does not appear to have been known earlier than the middle of the seventeenth century. The goldsmiths of London, who before that time had resorted their trade in money to the purchase and sale of foreign coin, then extended their business by borrowing and lending gold and silver, as well as bills, on simple security. This business was principally transacted with the king, to whom they made advances on the security of the taxes. They allowed interest to the individuals from whom they borrowed, and the receipts which they gave for deposits passed from hand to hand in the same manner as Bank notes have since circulated.
The taking of interest for the use of money was not rendered legal in England until 1546, when the rate that could be demanded was fixed at 10 per cent. In 1624 the legal rate was reduced to 6 per cent., and a further reduction to 5 per cent. took place in 1651. At this rate it still remains in Ireland, but was lowered in England to 3 per cent. in 1714, at which it now continues. These limitations have always been productive of evil. Money-lenders by profession will always be ready to take advantage of the necessities of the times, being left to their own devices by the more conscientious capitalists, demand not only a monopoly price for the use of their money, but also a further sum proportioned to the risk and penalties attending discovery. The Lombard merchants were accustomed to demand 20 per cent. interest, and even more, according to the urgency of the borrower’s wants.

The merchants of London had been used to deposit their money for security at the Mint in the Tower of London, whence they drew it out as occasion demanded; but in the year 1649 King Charles I. took possession of 200,000l. thus lodged, which of course put a stop to that practice. This state of things preceded and most probably led to the extension of the business of the goldsmiths, as just explained.

This business soon became very considerable, and was found convenient to the government. In 1672 King Charles II., who then owed 1,329,262l. to the bankers, borrowed at 8 per cent., shut up the Exchequer, and for a time refunded their notes, which ran rapidly out of circulation, and great distress among all classes of people. Yielding to the clamour raised against this dishonesty, the king at length consented to pay 6 per cent. interest, but the principal sum was not discharged until forty years afterwards.

The London banks were then, in 1699, the only joint stock companies carrying on business in London which were established before the Bank of England. The London bankers continued for some time after that event to issue notes; but have long since ceased to do business, except solely as depositaries of money, discounters of bills, and agents for bankers established in the country. No restriction has ever existed which prevents private banks in London, having not more than six partners, from issuing their notes payable to bearer; they have ceased to do so, however, since the conviction but paper money, issued on the security of only a small number of individuals, could not circulate profitably in competition with that of a powerful joint-stock association. Private bankers in London do not make any charge of commission to their customers, and generally grant considerable facilities to them, both by discounting bills and by temporary loans, either with or without security. Even where this kind of accommodation is not required, it is almost a matter of necessity for every merchant or carrying on business in London to have an account with a banker, through whom he makes his payments, and who will take from him the daily trouble of presenting bills and cheques for payment.

At various times some banking establishments in London have been set up by the merchants, with the object of giving facilities to their customers, and generally grant considerable facilities to them, both by discounting bills and by temporary loans, either with or without security. Even where this kind of accommodation is not required, it is almost a matter of necessity for every merchant or carrying on business in London to have an account with a banker, through whom he makes his payments, and who will take from him the daily trouble of presenting bills and cheques for payment. And at various times some banking establishments in London have been set up by the merchants, with the object of giving facilities to their customers. The activity which characterizes commercial pursuits in London prevents the deposit of money for any period that would enable a banker to realize such a profit from its use as would justify the allowance of interest to the depositor.

The profits of London bankers are principally derived from discounting mercantile bills either for their customers, or, through the intervention of brokers. The facilities of the latter are in fact considerable, and are as regards the security of this business, from the unreserved confidence which they are accustomed to place in one another as to the credit of their respective customers.

The great amount of money transactions daily carried on in London, and which has been estimated at nearly five millions, has led to the invention of a simple and ingenious method for economising the use of money. Almost all these payments are in the form of cheques upon bankers, or of bills drawn upon bankers, and paid at three o’clock every afternoon a clerk from each banking-house proceeds to a house in Lombard-street, called the Clearing House, taking with him all the drafts on other bankers which have been exchanged in drawing accounts, and deposits in drawers allotted to the different bankers. Another clerk is afterwards sent to deliver to the first all the drafts paid into the banking-house up to four o’clock, and these are distributed in the manner already described. He then gives credit to each respectively for the amount of drafts on his own bank which he finds in his own drawer. Balances are then struck, and the claims thus found are transferred from one account to another, and so wound up and cancelled, that each clerk has to settle with probably only two or three others, and transactions to the extent of millions are settled by the employment of from 200,000l. to 300,000l. in bank notes. On the days appointed for the settlement of accounts at the Stock Exchange, the money transactions settled are much greater, and amount to nearly fifteen millions. The money required for the ultimate settlement is not, however, increased proportionately, and has seldom exceeded half a million.

The bills or cheques which bankers do not choose to pay are returned, after the clearing, to the houses by whom they were presented, and by whom the amount is then refunded. Drafts which are not paid in until after four o’clock are sent to the banking-houses upon which they are drawn to be marked for payment on the following day; and this proceeding, which has been adopted for the convenience of the bankers in making up their accounts daily at a certain time, is of the greatest effect as regards the drawers and the persons by whom the drafts are paid in, as if the payment had actually been made.

There were very few country bankers established previous to the American war, but after the conclusion of that conflict on the part of their German allies, and on their return home, great distress among all classes of people. Yielding to the clamour raised against this dishonesty, the king at length consented to pay 6 per cent. interest, but the principal sum was not discharged until forty years afterwards.

The passing of the Bank Restriction Act was the signal for the formation of many establishments for banking in the country. In 1789, the first year, there were only 112 banks; but by 1802 there was a large number, taking out a license, the number issued being 702, which gradually rose to 940 in 1814. In that and the two following years eighty-nine of these banks failed, and their number was reduced to 79, of about 600. In the years 1825 and 1826 there were about 600 annual licenses issued, but their numbers were again reduced by eighty bankruptcies, and in 1832 only 636 licenses were demanded.

Country banks in England are all of them banks of deposit and of discount; they act as bankers for the requirements of money to and from London, and for effecting payments between different parts of the kingdom. The greater part of them are also banks of issue, and their notes are in many cases made payable at some banking-house in London, as well as at the place where they are issued.

A moderate rate of interest, from 2 to 3 per cent., is allowed by country bankers upon deposits which remain with them for any period beyond six months; some make in very rare cases even better terms. The proceeds derived from this source are frequently invested in real estate, which may not be of much immediate utility, but which may grow in value as a result of the rising price of homes. Country banks are also a drawing account, the balance is struck every six months, and the interest due upon the average is placed to his credit. Upon drawing accounts, a commission, usually of a quarter per cent., is charged on all payments. The amount of this commission varies with the volume of business which it occasions, either by keeping a certain sum of money in his hands without interest, or by allowing a commission on the payments made for his account, or by a fixed annual payment in lieu of the same.

The portion of funds in their hands arising from deposits and issues which is not required for discounting bills and making advances in the country, is invested in government or mercantile securities in London, which, in the event of a restriction of deposits or issues, can be made immediately available.

The establishment of banks throughout the kingdom has contributed materially to the growth of trade. Without them it would hardly be possible for a manufacturer employing any great number of hands, and those required to pay the weekly wages of his people. It is not a valid argument against their utility that occasionally, by the facilities they have afforded, the tendency to overtrading has been enforced; the conduct of being inflated; but it is to be hoped that the light which has of late been thrown upon the nature of this branch of business will be of the means of checking the evils, without much diminishing the good which it is calculated to effect. It is to be hoped that bankers and other country gentlemen, who have never paid attention to the state of the exchanges, or the circulation of the Bank of England, as indications whereby to regulate their own issues, that they have
always been anxious to put out their notes whenever they could do so upon what they considered good security; that in this respect they are guided only by their own respective interests, each one endeavoring to withdraw as much of his neighbor's paper as he can, and to substitute his own. This was a matter of common observation, and from the suppression of all notes under £5. value, a measure which arose out of the investigations which followed the memorable panic of 1825. The act of 32nd March, 1826, by which this change was established and embodied for the future, was a departure from circulation, by prohibiting the future issue of any stamps for that purpose, and declared that their issue should wholly cease on the 5th of April, 1829. It was on this occasion that the introduction of this act that the Bank of England ceased to recommend the government. It was then that the only banks to the advantage of the public at large, although they may not have offered the same facilities to individual traders as other banks.

The establishment of a joint stock banking company as a method, consequent upon the declaration in the act of 1813, which removed the doubt existing as to the legality of such an undertaking, is yet too recent to allow any estimate to be formed of its usefulness to the public or its profitableness to the stockholders. Much as it is, as regards both these objects, upon the degree of prudence with which its affairs are managed; but it seems different in the absence of experience, to discover such an undertaking, if cautiously conducted, should not succeed in London. But out of it for banking Ireland; in the largest that could be chosen, at least as well as similar associations have succeeded in other parts of the United Kingdom.

A national bank was established by charter in Ireland in 1783, with the same privileges as those granted to the Bank of England in 1751. The charter was for a term of 125 years, to which this corporation was 600,000l., and was lent to government at four per cent. interest. The management was vested in a governor, deputy-governor, and fifteen directors. In 1809, 1,000,000l. was added to its capital. This sum, which was issued by subscription, was approved by the government, and the issue of 125 per cent. was also lent to government at five per cent. interest. In 1821 the capital was augmented to 3,000,000l., and a further prolongation of the charter was granted to the same of 3,000,000l. in 1844. The power of issuing notes was greatly abused by these banks, and the mischief then occasioned was aggravated by other individuals passing themselves as such. In 1797, by several resolutions before a committee of the House of Commons, it was this time there were 295 issuers of paper money in Ireland, whose notes were in some cases put forth for a few shillings, and occasionally even as low as 6d. and 1 each. This was an instance of the confidence put in keepers, and petty dealers of all descriptions. The consequences might easily have been foreseen; forges and frauds innumerable were committed, and it became necessary to put a legal stop to the practice. The measure recorded with secrecy upon the bankers, so that only the king who carried on business in 1804, only nineteen remained in 1812. A few had prudently withdrawn from business, but the remainder had failed; and of the nineteen here mentioned eleven became bankrupt in 1819. The mistreatment of the banks, so-called by the interferences of government, and in 1821 an arrangement was made with the Bank of Ireland, by which joint stock banking companies were to be established at a distance of fifty Irish miles from the Act out however inoperative, in consequence of its curtailing and several vexatious restrictions; and it was not until after the passing of a new act in 1824, by which this error was remedied, that a joint stock banking company was established in 1825 by the formation of the Provincial Bank of Ireland, with a subscribed capital of two millions, one-fourth of which had been paid up by the shareholders.

The shareholders are principally resident in England, where the management of the affairs is conducted. The character of the association carries on business in the principal cities and towns of Ireland beyond the prescribed distance from Dublin.
Each branch is managed under the control of the directors, by an agent, with the advice and assistance of two or more governors, who have the power of removing the least ten shares in the bank. The system of business adopted is the same as is followed by the Scotch banks. The company is considered to be in a prosperous condition, its dividends are rising, and the stock is salable at a high premium. The bank has been benefited by the introduction of the Bank of Ireland, which has increased the market for banking services and increased the demand for the bank's shares.

In the year 1798, the bank was formed by the merger of three Scotch banks, the Bank of Scotland, the Bank of Ireland, and the Royal Bank of Scotland. The bank's capital was originally £2,000,000, and it was divided into 1,200,000 shares. The bank's shares were listed on the London Stock Exchange, and the bank's operations were supervised by the Bank of England.

The Scotch banks have a unique advantage over their English counterparts, as they are regulated by the Bank of England but are not subject to the same degree of regulation as English banks. This has allowed Scotch banks to develop a more flexible and innovative approach to banking, which has been reflected in their rapid growth over the past few decades.

VI. System of Banking in the United States of America.

The system of banking in the United States is similar to that of the United Kingdom, with a central bank (the Federal Reserve) and a network of commercial banks. The Federal Reserve is responsible for regulating the money supply and maintaining financial stability, while commercial banks provide a wide range of financial services to individuals and businesses.

The Federal Reserve System is composed of twelve regional Federal Reserve banks, which are responsible for implementing monetary policy in their respective regions. The Federal Reserve System also includes the Federal Open Market Committee, which sets interest rates and regulates the money supply, and the Board of Governors, which oversees the operations of the Federal Reserve System.

Commercial banks in the United States are regulated by state governments, and they are required to hold a certain amount of capital relative to their assets. This capital requirement helps to prevent banks from failing and protecting depositors from losing their money.

Overall, the banking system in the United States has been characterized by stability and growth, with a strong emphasis on innovation and risk-taking.

The system of business adopted by this establishment and by the British Linen Company is the same as that of the Bank of Scotland, and all have been described in detail. The act of 1798, which restrained some of the abuses, having more than six partners from issuing notes payable to bearer, did not extend to Scotland, where banking companies, with numerous partners dealing on a joint-stock, have long been established. The persons who embrace in these undertakings, being each answerable for his whole property for the engagements of the bank, the public has always given to them a great degree of confidence, which has in no case been misplaced. In 1793 and 1823, when so many banks were on the point of failure, not one Scotch bank failed to make good its engagements. Some defaults have since appeared, but not where the number of partners has been large. In another respect the law which requires the system of banking in Scotland to differ from that in force in England. The act of 1798, which put an end to the circulation of notes under £1, does not extend to Scotland, where a considerable part of the circulating medium of the country is composed of notes of £2 value. Hitherto this circumstance does not appear to have been attended by any mischievous consequences.

All banking establishments in Scotland take in deposits and allow interest upon very small sums lodged with them, which must account for the absence of savings banks in that part of the kingdom, which is confirmed by the fact that the Scotch banks are paying a higher rate of interest according to the current market rate. The rate has sometimes been as high as 4 per cent., but at present does not exceed 2 to 2½ per cent. It is stated in the Report of the Committee of the Privy Council on the subject of banking in Scotland and Ireland, that the aggregate amount of the sums deposited with the Scotch banks was then from twenty to twenty-one millions, and there is reason for believing that the sum has since increased to a greatly increased amount.

The committee mentioned, that about one-half of the depositors in Scotch banks are persons in the same rank and station as the depositors in savings' banks in England and Ireland.

The chartered and private banks in Scotland have all of them agents in London upon whom they draw bills, but their notes are not made payable except in Scotland.

It is stated in the Report of the Committee of the House of Commons above mentioned, that at the time their report was made (May, 1826), there were thirty-two banks in Scotland, including the three chartered companies. Of the remaining twenty-nine, the National Bank of Scotland had 1,438 partners; the Commercial Bank of Scotland, 524; the Royal Bank of Scotland, 474; the Bank of Scotland, 493; the Bank of Ireland, 18; the Bank of Scotland and Ireland, 16; and each more than 100 partners; in six the number was between 20 and 100; and in the remaining seventeen banks the number of partners in each fell short of twenty. The greater part of the Scotch banks, having branches in London, were branches of established banks in London, managed by an agent acting under the immediate directions of his employers, and giving security to them for his conduct. At the date of this report the Bank of Scotland had sixteen branches; the British Linen Company had twenty-seven branches; the Commercial Bank thirty-one; and the total number of branch banks established in Scotland was 133.

The Scotch bankers have a practice which is rigorously adhered to, of exchanging each other's notes twice a week and immediately paying the balances. For that purpose each bank has an agent in Edinburgh, by whom this arrangement is conducted every Monday and Friday. The balances are paid by bills at ten days' date and discount. The state of these balances is kept at great attention: if anything at all wrong in the conduct of a bank were thereby indicated, the others would instantly interfere and force the party to alter its proceedings. This course has proved effective in guarding against any deception in the notes, in preventing the consequent depreciation of their value. The plan of periodically exchanging notes with each other is partially acted upon in some districts in England, and it is to be regretted that a similar plan cannot be more extensively adopted throughout the whole kingdom, and to be any obstacle to its practice within different districts; and, if this were done, the security to the public, and to the more prudent among the country bankers, would be much increased.
The banking business is followed in the United States of America to a very great extent; and, as regards some of its parts, its success is proverbial. The only establishment of the kind that partakes of a national character is the United States Bank. The principal office of this incorporation is in Philadelphia; but it has branches in all the principal commercial towns of the United States. An United States bank was incorporated in 1790, under a charter for twenty-one years; this having expired in 1811 was not renewed, and it was not until 1816 that the existing institutions were incorporated. It has a capital of thirty-five millions of dollars in shares of 100 dollars each. One fifth of the shares were subscribed by the government. The management is confided to twenty-five directors, who must be stockholders; five of the number are annually nominated by the President, and the others are elected by the stockholders. The charter of this bank will expire in March, 1836; a bill for its renewal passed both Houses of Congress in 1832, but has been rejected by the President.

The capital of the 'States' banks existing in 1790 was about two millions of dollars. The Bank of the United States, chartered in 1791, added ten millions of dollars to that amount. Before the closing of this establishment by the Executive, the charters of the United States eighty-eight state-banks, with capitals amounting to forty-two millions of dollars. A great increase upon this number and amount has since taken place; on the 1st of January, 1831, there were throughout the United States eighty-eight state banks, whose capitals amounted to 110 millions of dollars; and from a paper laid before Congress in June, 1834, it appeared that the number of banking establishments was increased to 300, and that the amount of their capital paid up was 205,133,792 dollars.

It may well be imagined that so great and rapid an extension of the banking business could not have arisen altogether from the wants of the community, but must have been based upon a spirit of speculation adverse to its interest. The speculators were apparently not entirely without motives. In 1812, a great portion of these banks, including all south and west of New England, were obliged to suspend their specie payments. For adopting this measure the American bankers could not adduce the same reason as led to the Restriction Act in England in 1797; they must have been placed in a unfavourable position solely through the ruinous competition which had led each of them to advance the sum of money, and thus to make the public as possible. By this means the precious metals were in a manner forced out of the country; and when the war broke out, and confidence began to be shaken, the bankers were wholly unprepared for the change. The United States Bank in 1811 had favoured this short-sighted policy of private bankers, by widening the sphere of their business, without adding in any way to their means of conducting it. On the contrary, a very large proportion of the stock of the United States Bank having been held by foreigners was remitted abroad, and this being a remittance suddenly called for, out of the ordinary course of commerce, was in great part effected by the exportation of the precious metals. The suppression of the United States Bank had been attended by the further consequence of calling into existence new banking establishments into action in order to fill the chasm. In the four years from 1st January, 1811, to 1st January, 1815, no fewer than 120 new banks were chartered, with nominal capitals amounting in the aggregate to 23,880,000 dollars.

During the general suspension of specie payments in the United States, the paper currency was increased about fifty per cent., and its value was depreciated on the average about twenty-five per cent., as compared with specie.

It was not until after the organization of the New Bank of the United States, in January, 1817, that delegates from the banks in the principal commercial states met at Philadelphia to consider of the circumstances in which they stood, and to devise means for the improvement of their condition. The act of the legislature of Pennsylvania in 1817 authorized the formation of a bank with a capital of 15,000,000 dollars for the purpose of remitting payments in specie, a measure greatly assisted by the importation of a large amount of bullion by the newly-established public bank.

The banks were restrained by such a contraction of their issues on the part of private bankers as occasioned great and wide-spread commercial distress. Debts contracted in the depreciated currency became suddenly payable at its par value, while the facilities usually obtained from the bankers for their liquidation were suddenly withdrawn. The depreciation of the currency may be, and frequently is, accompanied by a delusive show of prosperity, but which is sure in the end to have all its fallacy revealed. Mr. Gallatin states that the number of banks that failed between 1811 and 1814 was 165, which had possessed capitals to the amount in the aggregate of near thirty millions of dollars. In some of these cases the loss fell for the greatest part upon the holders of bank notes and on depositors; the stockholders had gained for these shares in their own optimistic notes, which remained in the hands of the bank they afterwards redeemed by delivering up to be cancelled the stock in their names, and thus suffered no loss.

With one solitary exception—that of the bank of the late Mr. Girard in Philadelphia—all the private banks established in the United States are joint-stock companies incorporated by law, with fixed capitals, to the extent of which only the stockholders are in most cases responsible. The business of the country, therefore, is considerably less subject to the fluctuations of the public credit, which may afford a clearer view of the system of business pursued by these banks if we give from Mr. Gallatin's excellent work on the Currency and Banking System of the United States the following table of the thirty-one chartered banks of Pennsylavnia, in November, 1829:

<table>
<thead>
<tr>
<th>Bank</th>
<th>Capital</th>
<th>Shares $100</th>
<th>Shares $250</th>
<th>Shares $500</th>
<th>Notes $500</th>
<th>Notes $200</th>
<th>Notes $50</th>
<th>Bills</th>
<th>Deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12,612,000</td>
<td>304,000</td>
<td>1,500,000</td>
<td>50,000</td>
<td>10,000,000</td>
<td>6,000,000</td>
<td>1,500,000</td>
<td>10,000,000</td>
<td>2,500,000</td>
</tr>
<tr>
<td></td>
<td>6,306,000</td>
<td>153,000</td>
<td>750,000</td>
<td>25,000</td>
<td>5,000,000</td>
<td>3,000,000</td>
<td>750,000</td>
<td>5,000,000</td>
<td>1,250,000</td>
</tr>
<tr>
<td></td>
<td>6,518,000</td>
<td>163,000</td>
<td>850,000</td>
<td>25,000</td>
<td>5,000,000</td>
<td>3,000,000</td>
<td>850,000</td>
<td>5,000,000</td>
<td>1,250,000</td>
</tr>
<tr>
<td></td>
<td>7,050,000</td>
<td>175,000</td>
<td>1,000,000</td>
<td>40,000</td>
<td>10,000,000</td>
<td>6,000,000</td>
<td>1,000,000</td>
<td>10,000,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td></td>
<td>8,500,000</td>
<td>178,000</td>
<td>1,000,000</td>
<td>40,000</td>
<td>10,000,000</td>
<td>6,000,000</td>
<td>1,000,000</td>
<td>10,000,000</td>
<td>2,000,000</td>
</tr>
</tbody>
</table>

In considering what would be the situation of these banks, in the event of such an impairing of public confidence as would occasion a run upon them, we must take into the account the item of notes and balances due by other banks, which form part of the deposits, and must go to reduce the amount of the public debt. It is therefore necessary to add to the amount of the notes and balances due by the banks at the hazard of endangering all the commercial relations of the state, in the prosperity of which there is a whole safety, as well as the security of the holders of their notes, is involved. The legislatures of several of the states have by no means neglected this important subject, and have endeavored to provide for the prudent management of the banks by limiting the amount of their issues in proportion to their capital, requiring that not less than a certain proportion (generally 50 per cent.) of their nominal capital should be actually paid up in gold or silver, and existing in their vaults, before they begin business, and by rendering the directors of each bank personally responsible for the consequences of breaking these and other rules formed for the protection of the public. In Massachusetts the banks are restrained from issuing notes for a less sum than one dollar. The States of Pennsylvania, Maryland, and Virginia have fixed the maximum of notes of any denomination above five dollars. All notes are payable in specie; and if such payment be refused, the bank is liable to pay the holder damages at the rate of 24 per cent. per annum for the time payment is refused or delayed. The system of Mr. Girard's bank has been much extolled, and in particular the banks of the town of Boston have been held up as models for imitation. Certain it is, that since the passing of the present law regulating banking, no instance has occurred of the failure of any bank in Boston. This circumstance may go a great distance to account for, that in the event of a run upon
any one of them, the other banks immediately come forward to its assistance with all their disposable resources, provided its total assets can be shown to be equal to the amount of its liabilities; and this assistance would be continued until, by withholding discounts, collecting its demand and discounting of its assignable securities, it would be enabled to satisfy all claims without inconvenience.

In some cases, a bank owes money to the parties concerned, when the directors of a majority of such banks have borrowed for a single day the amount of specie required by law to be in their coffers before the commencement of business—have submitted this borrowed specie to the inspection of the commissioners appointed for the purpose, and have sworn that it formed the first instalment paid by the stockholders, or that the design of the legislation. Such proceedings cannot have been common; and it may be imagined that no body of men capable of such a juggle would sufficiently ensure the confidence of their fellow-citizens to be able successfully to embark in a business where that confidence must be so essential a part of the stock in trade.

In New York, Maryland, and some other of the states, the charter of a bank is forfeited from the moment that it refuses to pay its notes or deposits in specie. There are twenty incorporated banks in the city of New York, some of which pay a bonus to the state for their acts of incorporation. Their capitals amount to twelve millions of dollars. A branch of the United States Bank is also established in the city, and its capital is considered to be applicable to this station, giving thus a banking capital to the city of about four millions sterling. With the exception of the Bank of the United States, whose elastic issue of paper runs 10 millions, and the banks existing in New York issue notes for one dollar and upwards, the whole of the banks discount mercantile bills. No interest is allowed on deposits; and, in fact, the activity of the trade of the city is in great comparison with the capitals of the merchants, that deposits for such a length of time as would justify the payment of interest are unknown.

An Act was passed by the legislature of the state of New York, in April, 1829, called the 'Safety Fund Act,' to the proceedings of which all monied corporations thereafter to be created or renewed are subject. Under one of its provisions, every such corporation is obliged, on the 1st of January in each year, to pay to the treasurer of the state one-half or one per cent., at the option of the managers, on the amount of the capital stock of the bank, and to continue such payment until three per cent. in the whole shall be paid: this fund to remain perpetual in the hands of the treasurer, and be solely appropriated to the payment of the debts of such banking corporations as may become insolvent. In the meanwhile the corporation is entitled to the payment of interest on the demand deposit at the rate of 5 per cent. on the credit of each bank, after providing for the payment of salaries to certain commissioners who are appointed to investigate at least four times in every year the affairs of each incorporated corporation in the state. These commissioners are invested with the power of removing the officers of the banks upon oath, to inspect the books, &c.

In all cases where, from the date of their incorporation, and the determination of the directors of any bank not to bring themselves under the provisions of this act, they do not contribute to the Safety Fund, those directors are held personally liable to the full extent of all losses which the shareholders or creditors of the bank under their charge may sustain by reason of their departure from the course of management.
currency of the country can altogether provide; but such a state of things is very unlikely to arise in the present day, and indeed it is not probable that the mass of information among the people will render such an event still less probable.

We cannot better close this part of the subject than by the following passage from Mr. John S. J. (vol. ii. p. 69), in his chapter on Money:—"It is not by augmenting the capital of the country, but by rendering a greater part of that capital active and productive than would otherwise be so, that the most judicious operations of banking are performed; it is the explicit and fruitful part of his capital which a dealer is obliged to keep by him unemployed and in ready money, for answering occasional demands, is so much dead stock—which, so long as it remains dead, is equivalent, either to a capital or to a stock of the country. The judicious operations of banking enable him to convert this dead stock into active and productive stock—into materials to work upon, into tools to work with, and into provisions and subsistence to work for: into stock which produces something both to himself and to his country. The gold and silver money which circulates in any country, and by means of which the produce of its land and labour is annually circulated and distributed to the proper consumers, is, in the same manner, the reservoir of the active and fruitful part of the dead stock. It is a very considerable part of the capital of the country which produces nothing to the country. The judicious operations of banking, by substituting paper in the room of a great portion of this gold and silver money, the country to a great part of its stock shall be dead stock into active and productive stock—into stock which produces something to the country. The gold and silver money which circulates in any country may very properly be compared to a highway, which, while it circulates and carries to market all the gross and corn of the country itself produces not a single pile of either. The judicious operations of banking, by providing (if I may be allowed so violent a metaphor) a sort of waggon-way through the air, enable the country to convert it as a great part of its highways into pastures and corn-fields, and thereby to increase very considerably the annual produce of its land and labour.'

III. History and Constitution of the Bank of England.—This establishment, unquestionably the largest of its kind in Europe, was projected by a Scotch gentleman, Mr. William Patterson, in 1694. The scheme having received the sanction and support of the Government, to whom the whole of the capital was to be lent, the subscription was filled in ten days from its being first opened; and on the 27th of July, 1694, the Bank received its charter of incorporation. This charter provides, that the management and government of the corporation shall be committed to a governor, deputy-governor, and twenty-four directors, who shall be elected between the 25th of March and the 25th of April every year, from among the members of the company; that those officers must be natural-born subjects of England, or of the provinces of which they are possessed of their own names and for their own use, severally, viz., the governor (at least) 4000l., the deputy-governor 3000l., and each director 2000l. of the capital stock of the said corporation; and that, whenever any of the said governors and directors (of whom the governor and deputy-governor shall be always one and the same) shall constitute a Court of Directors, for the management of the affairs of the company;—that no dividend shall at any time be made by the said governor and company, save at the discretion of the present prescriptive arising out of the said capital stock or fund, or by such disbursements as shall be allowed by Act of Parliament. Each director must be possessed of at least 500l. of capital stock of the company. Four meetings shall be held in every year, in the months of April, July, September, and November, and special general courts to be summoned at all times upon the requisition of two qualified proprietors. The majority of electors present at general courts to have the power of making bye-laws for the constitution of the corporation; but such bye-laws must not be repugnant to the laws of the land.

The original capital of the Bank, which amounted to 1,000,000l., was, as already mentioned, lent to Government, who gave an assurance of the same at the rate of 8 per cent., with a further allowance for any management.
The first charter was granted to continue for eleven years, or till a year's notice after the 1st of August, 1765. In 1697 a new subscription was raised and lent to Government to the amount of 1,001,171l. 16s., which sum was repaid in 1707, and the remainder to the same amount. In the following year the charter was renewed until 1732; and in 1713 a further extension was granted for ten years, or until 1748. On the first of these occasions the capital was raised by new subscriptions amounting to 5,400,000l.; and in 1748, when the charter was again renewed until 1764, a call made upon the stockholders raised the entire capital to 9,800,000l. A further call of 10 per cent. upon this amount was made in 1764. The charter was further extended until twelve months' notice was given, in the 1783, and the proprietors were empowered to appropriate a part of their undivided profits among the proprietors, by adding 25 per cent. to the amount of their stock. These successive additions raised the capital of the Bank to 14,533,000l., the whole of which amount was, as it was raised, lent to Government. At the last renewal of the company's charter, which was granted in 1833 (Act 3 and 4 Wm. IV. c. 98), a provision was made for the repayment, on the part of the public, of one-fourth part of the debt at the end of the Bank Act, and no interest was allowed for the renewal of the charter. Some advantage was given by the Bank to the public, in the shape of an advance of money at a low rate of interest, or without any interest. At present, the rate paid by Government for the Bank's discount is 5 per cent.

From its first institution, the Bank of England has discounted merchantable bills. The rate of discount charged fluctuated at first, but was usually between 4½ and 6 per cent. In 1693 a distinction was made in this respect, as between persons who used the Bank mostly for specie, and others who wished to borrow for such persons inland bills were discounted at 4½, and foreign bills at 3 per cent.; while to all other persons the rate was 6 per cent. upon both descriptions of bills. After that time the rates were altered to suit the public circumstances; and in 1793 the rate was 4 and 5 ½ per cent. until 1772, when 5 per cent. was fixed as the rate of discount upon all descriptions of bills; and at this per centage the Bank continued to discount bills until June, 1828, when it was lowered to 4 per cent. The rate was again advanced to 5 per cent. during the panic, Dec. 1825; but was lowered in July, 1827, to 4 per cent., and has continued at that rate since.

Shortly after its first establishment, the Bank was allowed in some difficulties, and was obliged, in 1696, even to suspend the payment of its bills, to the great inconvenience of the public, and a considerable discount. Having received assistance from Government, this difficulty was soon surmounted; and the establishment was not again placed in the same dilemma until 1797, when another bill of 1797, passed by the House of Commons, which was the Act passed, which will require a more particular notice.

In 1706 an Act was passed, greatly in favour of the Bank of England, declaring that during the continuance of that corporation it should not be lawful for any other body politic, erected or to be erected, other than the state of England and Company of the Bank of England, or for any other persons whatever united, or to be united, in covenants of partnership exceeding the number of six persons, in that part of what is now Great Britain called England, to borrow, owe, or take upon any sum or sums of money on their bills or notes, beyond the demand, or in any less time than six months from the borrowing thereof. This Act continued in force until 1829, when it was partially repealed, so as to admit of the formation of banks of issue by establishments containing more than six partners, at any distance exceeding sixty miles from London; but these establishments were restrained from having any branch in London, and it was declared that the partners, jointly and severally, should be held liable for all the debts of the bank with which they might be connected.

Until a very recent period, it was not doubted that the Act of 1706, as above described, formed the foundation of all theBank of England's laws; but this impression was universally called in question by the discussions which preceded the partial relaxation of its provisions, in 1826, failed to suggest any different views regarding it. During the negotiations of 1831 for the renewal of the Bank Charter, the attention was prefixed upon the point as to whether the restriction was not continued to the forbidding only of banks of issue; and the law enacting
of the crown, having been called upon for their opinion on the subject, gave it as their decided opinion, that banks, regulated by the Restriction Act, could not, or need not, payable to
any part of the kingdom. To remove all doubts upon the subject, a clause was introduced in the Act of 1853, expressly authorising the Bank, in cases of necessity, to issue notes, with any number of partners, in any place within or without the limits to which the exclusive privilege of the Bank of England, in regard to issuing notes, now applies.

The Bank is expressly prohibited from engaging in any composite or other than transactions directly and legitimately connected with banking operations, such as the buying and selling of coin or bullion, and bills of exchange. But a power being given to the corporation to advance money upon the security of goods and merchandise, it was of course necessary to empower the directors to sell the same for their reimbursement.

In the year 1759 the Bank began to issue notes for 10l., having previously not put any into circulation below 20l. Notes of 5l. value were first issued in 1759, and in March, 1797, 1l. and 2l. notes were brought into use. The issue of the latter, except in one partial instance, ceased in fact in 1821, and by law on the 5th of April, 1829, since which time 5l. is the smallest sum for which any bank in England makes bank-notes payable. The necessity for the issue of notes for so small an amount as 1l. arose out of the act of 1797, which restricted the Bank from making payments in gold, a measure which was forced upon it by the financial operations of the government, then warlike, and by the rapacity of the contractors. The country in which this country was at that time engaged, although not actually so expensive as the war became at a subsequent period, brought with it demands upon the Treasury, which were the more difficult to be met owing to the comparative inexperience of the ministry in matters of this description. These demands could then only be answered by the assistance of the Bank; and as nearly all the sums drawn from it resolved themselves into bullion to be sent abroad, the Bank was nearly exhausted. That towards the end of February, 1797, it became necessary that the continuance of the drain for a very short time longer would find the directors without the power of answering it. Under these circumstances it became a matter of necessity as well as of justice towards the Bank to interpose, and to shield it from a catastrophe towards which it had been hurried through yielding to the solicitations for assistance made by the government. On Saturday, the 23rd of February, only 1,279,000l. in coin and bullion remained in the coffers of the Bank; on the 24th, on motion being made by the leading bankers and merchants of London pledging themselves to receive bank-notes in payment of any sums due to them, failed to make any injurious impression. A committee of the House of Commons was immediately afterwards appointed to inquire into the affairs of the Bank, which committee reported that a surplus of effects to the amount of 3,825,890l. was possessed by the corporation over and above its capital of 11,684,800l. then in the hands of government. The circumstances by which this measure was rendered necessary were altogether of a political nature, and the only blame that can be attached to the directors of the Bank for their conduct on that occasion arises out of their abandonment of their own better judgment to the urgent solicitations of the government. On the 26th of February, the price of goods was increased to 28.232.2730l., and the price of gold had fallen to 1l. 6s. 6d. per ounce, so that the notes were depreciated only to the extent of 9l. 19s. 5d. per cent. This statement, drawn from documents furnished by the Bank to parliament, makes it even doubtful whether any contraction whatever of their issues was necessary in order to restore Bank of England notes to their par value. The rise in value which they actually experienced, amounting to 9l. 4s. 6d. per cent., or nearly two thirds of their depreciation, was occasioned, in the face of an increased issue of more than 18 per cent., by the great quantity of gold poured into the country at the re-opening of our commerce, and no doubt also in some degree by the diminished circulation of the notes of our foreign creditors.

This state of things could not last long. Gold can never continue to circulate in the presence of an inconvertible paper currency, and an opportunity, the best that could possibly have offered, of extirpating our evil constitution, and for restoring our currency to a sound and healthy state, was suffered to pass away unimproved. The reason for this neglect is sufficiently obvious. The Bank directors, however blameless for the state of things which first caused them to feel the necessity of conceding benefits to their establishment, and were anxious to prolong its operation by every means within their power; and the ministers, who had still large financial operations to make, found it most to their convenience to effect them in a redundant paper currency.
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Except at the very moment of its enactment, the Bank Restriction Act was for some time so little needed for the security of that corporation, that its notes, during the first three years of its existence, were fully on a par with gold, and sometimes even bore a small premium. In less than seven months after the Suspension Act was first in force, the directors of the bank raised a resolution, in which they declared that the corporation was in a situation to resume with safety making payments in specie, if the political circumstances of the country did not render such a course inexpedient. After a few days' suspense it was found to be so completely expedient, that the Bank, with the wish to recur to cash payments was no doubt abandoned by the directors. In 1810 and the following year, Bank notes, owing to their excessive quantity in circulation, fell to a discount of 7 to 9 per cent, but recovered in 1811, and reached 10 per cent, until 1810 within 2 or 3 per cent of par. In the year last mentioned the depreciation occurred which led to the appointment of the celebrated Bullion Committee. The issues of the Bank, which on the 31st August, 1810, were £17,111,292l., had increased to £24,774,396l. in the following year, and on the 31st August, 1810, amounted to £24,774,396l., being an increase of about 45 per cent. in two years—a cause quite sufficient to account for their depreciation.

In 1811 the circulation was discounted at 29½ to 30½ per cent., and the discount was reduced to 21 per cent. A further issue again depressed the value of Bank notes, as compared with gold: on the 31st August, 1814, the amount in circulation was £28,368,390l., and the depreciation amounted to 25 per cent. of its amount. The Bank's shareholders and general want of confidence thus occasioned, so far widened the field for the circulation of Bank of England notes, that although the amount of them in circulation increased, in 1817, to £39,545,706l., their value relative to that of gold was restored.

In 1817, having accumulated nearly twelve millions of coin and bullion, the Bank gave notice in the month of April, that all notes of 2l. and 3l. value, dated prior to 1816, might be received in gold. In the September following, a further notice was given that gold would be paid for notes of every description dated prior to 1817. The effect of these measures was to drain the Bank of a large portion of its bullion, so that in 1819, no more than 3,553,966l. remained on hand, and an act was passed through Parliament to restrain the Bank from acting any further in conformity with the notices here mentioned.

In the same year the bill was passed, commonly known as Mr. Peel's Bill, which provided for the gradual resumption of the issue of bank notes. Under this bill the Bank Restriction Act was continued in force until the 1st of February, 1820; from that time to the 1st of October in the same year, the Bank was required to pay its notes in bullion of standard innocence at the rate of 3l. 19s. 6d. from 1st of October, 1820, to 1st of May, 1821, the rate of bullion was reduced to 3l. 19s. 6d. From the last-mentioned day, bullion might be demanded in payment for notes at the Munt price of 3l. 17s. 10½d. per ounce; and on the 1st of May, 1823, the current gold value of the medium might be demanded. The provisions of this act, as here mentioned, were respectively anticipated in point of time, and on the 1st of May, 1821, the Bank recommenced the payment of specie in accordance with the act.

One of the provisions of this act arose out of a suggestion made by the late Mr. Ricardo, which appears calculated to afford every requisite security against the evils to which system of paper currency is exposed. The effect of this suggestion was the gold loan of the medium, except when the Bank, by increasing the price at which they would pay it, on demand, in gold bars of the proper standard, would diminish the amount of notes in circulation. This provision, which was temporarily adopted in Mr. Peel's bill, would effectually prevent any depreciation of the notes, and might have a peculiar good effect in the event of a war in Europe, when, the greatest part of the moneys arising from the various branches of trade, and who, on the plan proposed, would be unable, individually, and without some extensive combination for the purpose, to drain the Bank of its treasure. No good reason has ever been yet given to the public against the permanent adoption of this economical suggestion.

On the 22nd of May, 1812, a Committee of Selectors was appointed by the House of Commons to inquire into the expediency of renewing the charter of the Bank of England, and into the system on which banks of issue in England and Wales are conducted. On the 11th of August following this Committee delivered its report, which was printed and published the following month, and showed a proportion of the evidence and documents by which it was accompanied, that the public is mainly indebted for the establishment of principles calculated to give such consistent and sound views and useful views as would result to the community. Containing, as it does, the opinions of some of our most distinguished statesmen, and the learned experience of practical men, this paper is of the greatest advantage to the members of the House while discussing and determining the provisions of the act which received the royal assent on the 28th of August, 1813, for renewing the charter of the Bank of England—a brief analysis of which act it may be advisable here to insert.

This act provides that no association, having more than six partners, shall issue bills or notes, payable on demand, in London, or within sixty-five miles of that city, during the continuance of the exclusive privileges granted to the Governor and Company of the Bank of England. The proportion of these privileges is to be, and the Bank shall continue to hold and enjoy all the exclusive privileges of banking granted by the act 79th and 80th Geo. III, c. 29, as regulated by the act 7th Geo. IV, c. 46, or any other act of Parliament subsequent thereto, but no other or further exclusive privilege of banking shall have arisen as to the construction of the said acts, and as to the extent of such exclusive privilege, and it is expedient that all such doubts should be removed, it was deemed expedient that the exclusive privilege was maintained, or any partnership or company, or partnership, although consisting of more than six persons, may carry on the trade or business of banking in London, or within sixty-five miles therefrom, provided they do not borrow, owe, or take up in England, by sum of money or money's worth, or carry on the trade of banking in London, or within sixty-five miles therefrom, by the said bank or any of the persons, or any person on their behalf, to issue, at any place out of London, any promissory note payable on demand, or made payable at the place where the same is issued.

Upon the Bill being read a second time, the House appointed six months after the expiration of ten years from the 1st of August, 1814, and upon repayment, by Parliament, of all sums that may be due from the public to the Bank at the time of the expiration of such note, the exclusive privileges of banking granted by this act shall cease and determine and that the payment of such sums shall be made and paid, and any note or resolution of the House of Commons, signed by the speaker of the said House and signed, and delivered at the public office of the Bank, shall be deemed and adjudged to be a sufficient discharge.

From and after the 1st of August, 1814, unless and until Parliament shall otherwise direct, a tender of a note or notes of the Bank of England, expressed to be payable at sight, shall be deemed sufficient to bind the said Bank as to all persons to whom such note or notes shall be presented in such note or notes, and shall be taken to be valid as a tender to such amount for all sums and moneys on which any tender of money may be legally made, as long as the Bank of England shall continue to pay, on demand, their said notes and the bank notes of any bank or branch bank of the said Governor and Company. But the said Governor and Company are not to be responsible or answerable for the payment of any note or any note of any branch bank of the said Governor and Company, any note of
or notes of the said Governor and Company not made specially payable at such branch bank; but the said Governor and Company shall be liable to pay and satisfy, at the Bank of England in London, all notes of the said Governor and Company, or of any branch thereof.

No bill of exchange or promissory note made payable at or within three months after the date thereof, or not having more than three months to run, shall, by reason of any interest or discount or interest or discount allowed or taken on such note or interest on such note, or not having more than thirty days to run, be said or held to be in default of the said public unremitted debt, the annual sum of 120,000l.; provided always that such deduction shall in no respect prejudice or affect the right of the said Governor and Company to be paid for the management of the public debt as the rate and percentage aforesaid in the terms and conditions aforesaid in Geo. III. c. 4 entitled "An act to authorize the advancing for the public service, upon certain conditions, a proportion of the balance remaining in the Bank of England for payments of unclaimed dividends and annuities, and lottery prizes, and for regulating the allowances to be made for the management of the national debt."

All the powers, authorities, franchises, privileges, and advantages given or recognized by the said revised act of the 39th and 40th Geo. III. are hereby confirmed, as belonging to or enjoyed by the Governor and Company of the Bank of England, or by any subsequent act or acts of Parliament, shall, and the same are hereby declared to be, in full force, and continued by this act, except so far as the same are altered or destroyed by any future act of Parliament, made upon the terms and conditions following,—that is to say, that at any time upon twelve months' notice to be given after the 1st of August, 1835, and upon repayment, by partial or total, of the sum of 14,686,804l., which will remain due from the public to the said Governor and Company after the repayment of one-fourth of the debt of 14,686,804l., as hereinafter provided; and upon payment to the said Governor and Company of all arrears of the sum of 14,686,804l., per annum, from and after the said 5th of October, 1834, and upon surrender of the Bank accounts of the preceding three months, made from such consolidated accounts as aforesaid, shall be published every month in the first succeeding London Gazette.

The rate of the debt due from the public to the Bank shall and may be repaid.

A general Court of Proprietors of the Bank shall be held some time between the passing of this act and the 5th of October, 1834, to determine upon the propriety of dividing and appropriating the Bank clouds to be divided amongst the several persons, bodies politic or corporate, who may be proprietors of the capital stock of the Governor and Company of the Bank of England on the said 5th of October; and upon the manner and the time for making such division; and the said Court shall have power to make all such provisions for that purpose herein contained; and in case such general court, or any adjourned general court shall determine that it will be proper to make such division, then, but not otherwise, the capital stock of the said Governor and Company shall be divided amongst the persons, bodies politic or corporate, who shall have been for more than three months to run before they become due taken out of the operation of the usury laws. This provision may perhaps be considered as the first step towards the entire removal from the statute book of an enactment which, while it serves to direct a mode of proceeding in extremis of the nature of this act, operates disadvantageously to the borrower of money, and upon these and other grounds has been repeatedly condemned by committees of the House of Commons.

The clause which provides that notes of the Bank of England and its branches shall be a legal tender in every part of England, as explained by the act already recited, has excited considerable interest among commercial men, some of whom have—its thought without sufficient grounds—observed alarm of the "legal tender," although certainly correct, is an unfortunate term, as it seems to threaten the mercantile public with the return of those days of ruinous uncertainty in regard to currency which were so commonly experienced throughout the period from the Resignation Act. But the principles in effect are legal tender in every part of the kingdom. The only possible effect of an injurious kind which can attach to this regulation is, that in the event of such a conjunction as shall render the Bank unable to meet engagements, the produce of its notes, which may come to be regarded as a two days' journey from London or the place where they were issued, may be placed in an unfavourable position for exchanging them for specie. This conjunction, however, no competent day shall be the case, it is evident that this act will be neither the Bank of England from the expensive necessity in which it was formerly placed, of providing bullion to meet every run that might be made upon
all the country bankers in every part of the kingdom, who, under the present system, may pay the demands on them in Bank of England notes, instead of in specie, as they were formerly obliged to do.

The repayment of one-fourth of the debt due from the public to the Bank has been made by an assignment of 3 per cent. stock, which was previously held by the commissioners in trust for the reduction of the national debt, but no division of the amount has yet been made among the proprietors of the Bank capital, who have judged it most advisable to leave the sum thus rendered available as capital in the hands of the directors the Bank itself.

The principal advantage conferred on the Bank by the legislature consists in the restriction that prevents any other establishment, having more than six partners, from issuing notes, or with which the Bank had any connection or connection with other banks. Nor is the advantage of this restriction altogether confined to the corporation in whose favour it is enacted. If more than one bank of issue were in operation in London, the spirit of competition with which each would be actuated might render them less prudent in acting upon those inducements which should govern the amount of their circulation.

This consideration is of more importance in London, where the value of the national currency, compared with that of other countries, is finally adjusted by the importation or exportation of bullion, which would probably exist between rival establishments thus circumstance. In the event of a redundant circulation becoming evident, the adoption of a prudent course by one party in contracting its issues and in collecting their obligations, and the eagerness of its competitors to turn that circumstance to their own immediate advantage, by filling up the void thus occasioned. Under such a system the public would be continually subjected to violent oscillations of the currency, the evils of which it would be impossible to calculate.

We learn from the evidence given before the secret committee by certain of the Bank directors, that the principle upon which they proceed in regulating their issues is to keep the money and bullion amount to a third part of the liabilities of the Bank, including sums deposited as well as notes in circulation. It is difficult to account for the adoption of exactly one-third, as the proportion calculated to secure the safety of the establishment. In quiet and ordinary times, and when care has been taken to limit the circulation within the amount which would injuriously affect the foreign exchanges, to keep so large a proportion of profitless capital can never be necessary. Under opposite circumstances, when, by an over-issue of paper, profits have been made on the high and profitable species of remittance abroad, experience shows us that the drain upon the Bank thus arising may and will be carried to an extent far beyond the mere redundancy of currency afford, and the demand for specie by the public, from the reasons above stated, is the arbitrarily chosen for the security of the Bank. Where a vigilant course of management is pursued, a smaller comparative amount of gold would always suffice to restore the equilibrium when disregarded by the accidental change of commerce; and where a different system is pursued it is difficult to say what quantity of the precious metals, short of the whole liabilities of the Bank, will be found adequate to that end. The action of the public upon the Bank in 1825, when the largest amount of bullion ever possessed by it was so near being wholly exhausted, proves the truth of this position, and shows the necessity of adopting some less questionable rule than the arbitrary one-third.

The Bank of England acts as the agent of the government in the management of the national debt. It receives and registers transfers of stock from one public creditor to another, and makes the quarterly payments of the dividends. For this purpose it employs more than 400 clerks, porters, and bellmen, and its annual expenses total £18,333, received from the public in payment for its services, the sum of £24,000, per annum. Of this amount £18,000, per annum is now abated in terms of that act.

The balances of money belonging to the public are kept in the Bank. It is the depository of the ordinary functions of a private banker. The alteration recently made in the constitution of the department of the Exchequer will add somewhat to this branch of the Bank's business. The Bank is likewise the depository of the Government for a place of deposit for their money; but as the Bank directors do not give the same facilities to their customers as they receive from private bankers, the proportion of mercantile men who have drawing accounts with the Bank is comparatively small.

Branch banks were established by the Bank of England, in 1826 and 1829, at Swansea, Gloucester, Manchester, Birmingham, Liverpool, Bristol, Leeds, Exeter, Newcastle, Hull, and Norwich. These branches have not failed to show the profits of private establishments, whose customers enjoy those advantages. The business of these branches, which consists in issuing bills, is payable in London and in the place where they are issued, and in transmitting money to and from London. To encourage the circulation of their own notes, these branches are accustomed to discount, at a more advantageous rate than for others, bills brought to them by such country bankers as are not themselves issuers.

The profits of the Bank of England are derived from discounts on commercial bills; interest on Exchequer Bills, which is usually paid; interest upon the capital stock in the hands of government, the allowance on the issue of the 3 per cent. stock; the issuing of notes, dividends on stock in the public funds, profit on the purchase of bullion, and some minor sources of income. In 1824 the stockholders divided 3 per cent., which was increased to 5 per cent. in the following year; from that time to 1828 the annual dividend fluctuated between 4½ per cent. and 4 per cent.; for the next eighteen years the rate was 5½ to 6 per cent.; in 1857 it fell to 5 per cent.; in 1873 to 4½ per cent., which was the lowest rate of profit since its establishment. The average rate, however, generally increased to 7 per cent., and from 1867 to 1872 the stockholders divided 10 per cent. annually; in 1873 the rate was lowered to 8 per cent., and has proceeded to the present time. In addition to these payments, the stockholders have at various times received bonuses to the amount of £6,624,380l., or 574 per cent. upon the subscribed capital.

The expenses of the Bank are necessarily very great. It maintains an establishment of more than 800 officers, clerks, porters, and messengers, and pays to the stamp office up to the sum of £70,000 per annum, as a composition for the duty upon its notes and bills.

The directors of the Bank of England have always declined and acted upon the opinion that security in regard to an increase of the circulation is competency. To such an extent has this feeling been carried, that for the years ending 1826 and 1827, 1½ per cent. was declared and paid, without any exhibition to the proprietors of a single figure by which such a course could be justified, the simple recommendation of the directors having always satisfied the propriety as to the policy of preserving this mystery. The printing of the report of the committee of secrecy in 1832 revealed the true condition of the corporation, and it is not likely that the directors will ever again be allowed to invite such proceeding in the same degree of concealment, as it has been in the past.

IV. The art of banking, as carried on by private establishments and joint-stock associations in London, on other parts of England, and in Ireland. —The Italian movement for the establishment of new banks, and the growth of joint-stock establishments, especially in Italy, Germany, and France, have caused a great increase of banks and banking houses in the United Kingdom, and London in particular, as being the centre of speculation and commerce. These establishments are principally connected with the kings, to whom they paid advances on the security of the taxes. They allowed interest to the individuals from whom they borrowed, and in this way increased the circulation, because the sums which they gave for deposits passed from hand to hand in the same manner as Bank notes have been circulated.
The taking of interest for the use of money was not rendered legal in England until 1546, when the rate that could be demanded was fixed at 10 per cent. In 1624 the legal rate was reduced to 8 per cent., and a further reduction to 6 per cent. took place in 1651. At this rate it still remains in two cases, prescribed in England to 5 per cent. in 1714, at which it now continues. These limitations have always been productive of evil. Money-lenders by profession will always be ready to take advantage of the necessities of borrowers, and being left without competitors among the money-lenders, have the opportunity to charge the only price that can be justified by the monopoly price for the use of their money, but also a further sum proportioned to the risk and penalties attending discovery. The Lombard merchants were accustomed to demand 26 per cent. interest, and even more, according to the situation of the borrower's wealth.

The merchants of London had been used to deposit their money for security at the Mint in the Tower of London, whence they drew it out as occasion demanded; but in the reign of King Charles I, took possession of 200,000l. thus lodged, which of course put a stop to that practice. This state of things preceded and most probably led to the extension of the business of the goldsmiths, as just explained.

The business soon became very considerable, and was found convenient to the government. In 1672 King Charles II, who then owed 1,328,326l. to the bankers, borrowed 8 per cent., shut up the Exchequer, and for a time refused to pay either principal or interest, thus creating great hardship to all classes of the people. These limitations have ever since been clamour raised against this dishonesty, the king at length consented to pay 6 per cent. interest, but the principal sum was not discharged until forty years afterwards.

There are three private banking-houses still carrying on business under a license, but without a banking-house, the name of the Bank of England. The London bankers continued for some time after that event to issue notes, but have long since ceased to do so, acting solely as depositaries of money, discounters of bills, and agents for bankers who resided in the country. No restriction has ever existed which prevents private banks in London, having not more than six partners, from issuing their notes payable to bearer; that they have ceased to do so has arisen from the conviction that paper money, issued on the security of only a small number of individuals, could not circulate profitably in competition with that of a powerful joint-stock association. Private bankers in London do not make any charge of commission to their customers, and generally grant considerable facilities to them, both by allowing on moderate terms of interest, or without security. Even where this kind of accommodation is not required, it is always a matter of necessity for every merchant or trader carrying on considerable business to have a banker to whom he can make his payments, and who will take from him the daily trouble of presenting bills and cheques for payment. At various times some banking establishments in London have adopted the principle of allowing interest upon deposits placed in their hands, but this has not been found to succeed. The activity which characterizes commercial pursuits in London prevents the deposit of money for any period that would enable a banker to realize such a profit from its use as would justify the allowance of interest to the depositors.

The profits of London bankers are principally derived from discounting merchandise bills either for their customers, or, through the intervention of bankers, for other parties. The term cash banking business, from the unreserved confidence which they are accustomed to place in one another as to the credit of their respective customers.

The great amount of money transactions daily carried on in London, and which has been estimated at nearly five millions, has led to the invention of a simple and ingenious method for economising the use of money. Almost all these payments are in the form of cheques upon bankers, or of bills of exchange addressed to bankers for payment. At three o'clock in the afternoon, such a draft or note as a house proceeds to a house in Lombard-street, called the Clearing House, taking with him all the drafts on other bankers which have been paid into his house that day, and presenting them to the Clearing House. Another clerk is afterwards sent who delivers to the first all the drafts paid into the banking-house up to four o'clock, and these are distributed in the manner already described. He then gives credit to each respectively for the amount of drafts on his own bank which he finds in his own drawer. Balances are then struck, and the claims thus found are transferred from one account to another, and so wound up and cancelled, that each clerk has to settle with probably two or three or four other clerks, and the total of millions are settled by the employment of from 200,000l. to 300,000l. in bank notes. On the days appointed for the settlement of accounts at the Stock Exchange, the money in drafts is much greater, and runs through on several times, and have amounted to nearly fifteen millions. The money required for the ultimate settlement is not, however, increased proportionally, and has seldom exceeded half a million.

The bills or cheques which bankers do not choose to pay are returned, after the clearing, to the houses by whom they were presented, and by whom the amount is then refunded. Drafts which are not paid in until after four o'clock are sent to the banking-houses upon which they are drawn, to be marked for payment on the following day; and this proceeding, which has been adopted for the convenience of the bankers in making up their accounts daily at a certain hour, is of the same effect, as regards the drawers and the bankers, as if the drafts were paid in, as if the payment had actually been made.

There were very few country bankers established previous to the American war, but after the conclusion of that contest their numbers increased greatly. In 1793 they were supposed to number only ten, but twenty-five were in the country at the close of the war, and twenty-two of them became bankrupt. The passing of the Bank Restriction Act was the signal for the formation of many establishments for banking in the county.

In 1809, the first year when bankers were required to keep a register of their business, the number of banks, or establishments, grossly rose to 910 in 1814. In that and the two following years eighty-nine of these banks failed, and their numbers fell off greatly. In each of the years 1825 and 1826 only two or three were licensed, but their numbers were again reduced by eighty bankruptcies, and in 1832 only 366 licenses were demanded.

Country banks in England are all of them banks of deposit and of discount; they act as agents for the remittance of money to and from London, and for effecting payments between different parts of the kingdom. The greater part of them are also banks of issue, and their notes are in many cases made payable at some banking-house in London, as well as at the place where they are issued. No license is granted to a country bank of 2,000l. per annum, but the number of those which have been granted is 150.

The establishment of banks throughout the kingdom has contributed materially to the growth of trade. Without them it would hardly be possible for a manufacturer employing any great number of hands to collect the money required to pay the weekly wages of his people. It is not a valid argument against their utility that occasionally, by the facilities they have afforded, the tendency to overtrading has been encouraged; there are few benefits which are not accompanied by a like evil; but the evil which has of late been thrown upon the nature of this branch of business will be the means of checking the evils, without much diminishing the good which it is calculated to effect. It has been urged that country banks do not pay interest, but this is a misrepresentation of the circulation of the Bank of England, as indications whereby to regulate their own issues, but that they have
always been anxious to put out their notes whenever they could, so upon what they considered good security; that in this respect they are guided only by their own respective interests, each one endeavouring to withdraw as much of his neighbour's paper as he can, and to substitute his own. This was not the case as far as the Bank of England was concerned. The suppression of all notes under 5l. value, a measure which arose out of the investigations which followed the memorable panic of 1825. The act of 32nd March, 1826, by which this change was effected, provided only for the gradual withdrawal of the smaller denominations, and for the issue, by promoting the future issue of any stamps for that purpose, and declared that their issue should wholly cease on the 5th of April, 1829. It was on the occasion of the introduction of this act that the Bank of England took, at the recommendation of government, to establish branches of its own body in different parts of the country.

The practical effect of this measure of preventing the circulation of notes below 5l. value, has been to lessen, in an important degree, the issues of country bankers. Previously to their suppression, the small notes formed more than one-half the circulation of country banks, whose issues have not, however, been reduced in that proportion, owing to an enlarged amount of 5l. notes being taken by the public. As a result, this act has lessened the demand by 30 per cent. It is generally acknowledged by country bankers themselves, that the description of notes withdrawn formed by far the most dangerous part of their issues; that in the event of a panic in England, these notes would be always first brought in for payment, and that, in consequence, the situation of the country banker is now one of much greater security than it was while small notes were issued.

Up to the present time no local circulation has existed in the greater, manufacturing, and trading districts of the kingdom, where Bank of England notes alone pass from hand to hand, but a great number of payments are adjusted by means of bills of exchange drawn upon or made payable by London houses. By a very recent resolution the Joint-Stock Banks and the Bank of England have determined upon issuing notes. A very general opinion has been expressed that private or joint-stock banks of issue should place adequate security in the hands of the state, so that the holders of their notes could, in case of default, appeal to them for their insolvency; and certainly there can be no good reason given why they should be left in this respect unattended, while such ample security is taken from the Bank of England, whose great wealth is matter of notifierity. Securities lodged with the government would consist either in the public stock or Exchequer bills, and would therefore be to some extent productive of profit to the parties by whom they were lodged, although their gains would certainly be in some degree reduced by the measure. Still it appears reasonable that the integrity of the country bank should be protected against the dishonesty or carelessness of the issuers. Banks of deposit are differently circumstanced, as it is at all times possible for them to make a profit out of the small notes which are lodged with them, as they will never be exchanged for a bill of exchange, and may with safety be left to individuals to look after their own interest in this respect. The deposit of securities might in the end prove no loss to those by whom they were lodged, as the knowledge of the fact would tend to prevent them from runs, which, although they may be successfully met, are known to be at all times productive of heavy losses.

There is another point which, as it stands at present, presents a very serious difficulty. The Bank of England, which gives no security for the small notes which are occasionally issued, has a large amount of its notes in circulation. In 1815 the Bank of England was allowed to issue notes to the amount of 500,000l., and this was raised to 1,000,000l. in 1825. The Bank of England is not required to keep notes in the hands of depositors but may at any time upon notice be obliged to deliver up the notes. Several joint-stock banking companies have been formed in England, principally in the northern and manufacturing districts. Hitherto the result appears to have been advantageous both to their proporsers and the public. The system upon which the business is conducted is the same generally as that pursued by private establishments, but it is, of course, more obligatory upon managers seeking for others to use great caution in their dealings, and to adhere rigidly to system, than it is for an individual or a small number of partners without the same degree of responsibility. For this reason, as well as for the greater security they offer, they are, notwithstanding the advantages to the advantage of the public at large, although they may not offer the same facilities to individual traders as other banks.

The establishment of a joint-stock banking company as a system of government, consequence, of the declaration in the act of 1823, which removed the doubt existing as to the legality of such an undertaking, is yet too recent to allow any estimate to be formed of its usefulness to the public or its profitableness to the stockholders. Much will depend, as regards both these objects, upon the degree of prudent with which its affairs are managed; but it seems difficult, in the absence of experience, to discover why such an undertaking, if cautiously conducted, should not succeed in a manner similar to those which have succeeded in other parts of the United Kingdom.

A national bank was established by charter in Ireland in 1783, with the same privileges as those granted to the Bank of England in 1709. The capital of this corporation was 600,000l., and was lent to government at four per cent. interest. The management is vested in a governor, deputy-governor, and fifteen directors. In 1800 1,000,000l. was added to its capital. This sum, which was raised by the purchase of Ireland's public securities, was issued at 125 per cent., and was also lent to government at five per cent. interest. In 1821 the capital was augmented to 2,000,000l., and a further prolongation of the charter was granted in 1806, to expire on January 1, 1825, for twenty-one years. The bank of Ireland has on various occasions been extended to the Bank of England, in 1797, when it became necessary to restrict the Bank of England from paying its notes in gold, that measure was, almost necessarily, adopted in Ireland, in consequence of the issue of Bank of Ireland notes increased from 750,000l. which it was in 1757, to upwards of 4,000,000l., before the Suspension Act was ultimately repealed.

This same measure led, as in England, to the establishment of numerous private banks in Ireland; all of which were in operation in 1804. The power of issuing notes was greatly abused by these banks, and the mania thus occasioned was aggravated by other individuals issuing notes also. It was given in evidence by several persons who were a committee of inquiry, that at this time there were 295 issuers of paper money in Ireland, whose notes were in some cases put forth for a few shillings, and occasionally even as low as 1s. and 6d. each. The notes of these issuers were accepted by dealers, drapers, dressmakers, shopkeepers, and petty dealers of all descriptions. The consequences might easily have been foreseen; forgeries and frauds innumerable were committed, and it became necessary to put a legal stop to the practice. The measures adopted were to prevent the dealers from using the notes, which on the 1st of January, 1812, who earned on business in 1804, only nineteen remained in 1812. A few had prudently withdrawn from business, but the remainder had failed; and of the nineteen who managed to hang on, eleven became bankrupt in 1809. The mischief that was done called loudly for the interference of government, and in 1821 an arrangement was made with the Bank of Ireland, by which joint-stock banking companies were allowed to be established at a distance of fifty Irish miles from Dublin. This act was however inexpedient, in consequence of several vexatious restrictions; and it was not until after the passing of a new act in 1824, by which this error was remedied, that a joint-stock banking company was established in 1825 with a capital of 1,500,000l., and in 1825 by the formation of the Provincial Bank of Ireland, with a subscribed capital of two millions, one-fourth part of which has been paid up by the shareholders. The shareholders are principally resident in England, where the management of the company is conducted. The ban of the bank is to carry on business in most of the principal cities and towns of Ireland beyond the prescribed distance from Dublin.
Each branch is managed under the control of the directors, by an agent, with the advice and assistance of two or more general managers, and by a large number of clerks and clerking of that least ten shares in the bank. The system of business adopted is the same as is followed by the Scotch banks. The company is considered to be in a prosperous condition, its trade is increasing, and the stock is salable at a high premium. The benefit to the country from the introduction and prudent employment of so much capital has been very great.

In the same year with the formation of the Provincial Bank, the directors of the Bank of Ireland began to establish branches in the country. The notes issued from these branches were not at first payable except in Dublin; but this inconvenience has been rectified by the act 9 Geo. IV., c. 61, which makes it obligatory on all banks to pay their notes at the places where they are issued. The Provincial Bank are received by the Irish government in payment for duties and taxes equally with the notes of the Bank of Ireland.

The success which has attended the Provincial Bank has brought forth proposals for the formation of a second establishment of the like nature; but this company, although powerfully supported, is not yet in a condition to commence business.

The Act of 1836, forbidding the issue of notes under 5l. value, does not extend to Ireland.

V. Scotch system of Banking.—There are three incorporated public banks in Scotland: one of these, called the Bank of Scotland, was established by the act of the Scottish parliament in 1765, and is the only one of the Royal Bank of Scotland, received a royal charter in 1727; and the third, the British Linen Company, was incorporated in 1746 for the purpose of undertaking the manufacture of linen, but now conducts as a banking company only; its capital is 500,000l.

The capital of the Bank of Scotland was originally 2,100,000l. Scots, or 100,000l. sterling money, divided into 1200 shares. This capital has since been augmented at different times, and now amounts to 5,000,000l. sterling, but of this sum only one million has been paid up by the shareholders.

This bank began to establish branches in 1676, and issued notes for ½l. each in 1704. It also began very early to receive deposits, for which it allowed interest; and in 1729 introduced the plan of granting credits on cash accounts, which now forms a principal feature of the Scotch banking system.

The nature of these cash accounts consists in the bank giving credit on loan, only in so much as is necessary, to any individual or house of business that can procure two or more persons, of undoubted credit and property, to become surety for the repayment, on demand, of the sum credited, with interest. When a person has obtained this credit, he may draw from the account in his book, at any time, only upon the sum which he actually uses, and having interest allowed to him from the day of repaying any part of the loan. These loans are advanced in the notes of the bank, whose advantage from the system consists in the call which these credits produce for the issue of their paper, and from the opportunity which they afford for the profitable employment of part of their deposits. In order to render this part of their business as advantageous and secure as possible, it is necessary that the credits should be frequently operated upon; and if the managers of the bank find that they are used as dead loans to produce interest only, or that the operations of the borrower are infrquent, so that the amount of notes called for is inconsiderable during the year, they will speedily put an end to that and be to the interest of the bank to keep up an active circulation of its notes.

These cash accounts are found to be very advantageous to traders, by supplying an additional capital, for the use of which they pay only in proportion to the amount of it which they employ.

The management of the Bank of Scotland is vested in a governor, deputy-governor, twelve ordinary and twelve extraordinary directors, and in a board of shareholders having 250l. of stock or upwards. The management of the various branches, which are opened in all the principal towns in Scotland, is confided to cashiers or agents.

The Royal Bank of Scotland had at first a capital of 154,000l., which has since been increased to 2,000,000l. 

The system of business adopted by this establishment and by the British Linen Company is the same as that of the Bank of Scotland.

The act of 1708, which restrained any association having more than six partners from issuing notes payable to bearer, did not extend to Scotland, where banking companies, with numerous partners, dealing on a joint-stock, have long existed. The persons who engage in these to be answerable with his whole property for the engagements of the bank, the public has always given to them a great degree of confidence, which has in no case been injured.

In another respect the system which regulates the system of banking in Scotland differs from that in force in England. The act of 1826, which put an end to the circulation of notes under 5l., does not extend to Scotland, where a considerable part of the circulating medium of the country consists of notes of 1l. value. Hitherto this circumstance does not appear to have been attended by any mischievous consequences.

All banking establishments in Scotland take in deposits and allow interest upon very small sums lodged with them, which makes a large amount of savings account in that part of the kingdom. The interest allowed varies according to the current market rate. The rate has sometimes been as high as 4 per cent., but at present does not exceed 3 to 3 ½ per cent. It is stated in the Report of the Committee of the House of Commons above mentioned, that the aggregate amount of the sums deposited with the Scotch banks was then from twenty to twenty-one millions, and that there is reason for hoping that this amount has since been greatly increased. It appeared from the evidence of the committee just mentioned, that about one-half of the depositors in Scotch banks are persons in the same rank and station as the depositors in savings' banks in England and Ireland.

The chartered and private banks in Scotland have all of them agents in London upon whom they draw bills, but their notes are not made payable except in Scotland.

It is stated in the Report of the Committee of the House of Commons above mentioned, that at the time their report was made (May, 1826), there were thirty-two banks in Scotland, including the three chartered companies. Of the remaining twenty-nine, the National Bank of Scotland had 120,000 partners; the Commercial Bank of Scotland 48; the Aberdeen Town and County Bank, 446: three others had each more than 100 partners; in six the number was between 20 and 100; and in the remaining seventeen banks the number of partners in each fell short of twenty. The number of branch banks also has greatly increased.

The Scotch bankers have a practice which is rigorously adhered to, of exchanging each other's notes twice a week and immediately paying the balances. For that purpose each bank has an agent in Edinburgh, by whom this arrangement is conducted every Monday and Friday. The balances are paid by bills at ten days' date, and the state of these balances is looked at with great attention: if anything at all wrong in the conduct of a bank were thereby indicated, the others would instantly interfere and force the party to alter its proceedings. This course of procedure is universal in guarding against any over issue of bank notes, and in preventing the consequent depreciation of their value. The plan of periodically exchanging notes with each other is partially acted upon in some districts in England, and it is to be hoped that the practice may be adopted throughout the country. There does not appear to be any obstacle to its practical working within different districts; and, if it were done, the security to the public, and to the more prudent among the country bankers, would be much increased.

VI. System of Banking in the United States of America.

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The banking business is followed in the United States of America to a very great extent; and, as regards some of its principles, upon a system which requires notice.

The capital and the no less formidable system of checks of a national character is the United States Bank. The principal office of this incorporation is in Philadelphia; but it has branches in all the principal commercial towns of the Union.

The United States Bank was incorporated in 1790, under a charter for twenty-one years; this having expired in 1811 was not renewed, and it was not until 1816 that the existing institution was incorporated. It has a capital of thirty-five million dollars in shares of one hundred dollars each. One fifth of the shares were subscribed by the government. The management is confined to twenty-five directors, who must be stockholders; five of the number are annually nominated by the President of the United States, and the rest are elected by the stockholders. The charter of this bank will expire in March, 1836; and if for the expiration a bill for its renewal was passed both Houses of Congress in 1832, but has been rejected by the President.

The capital of the 'States' banks existing in 1790 was about two millions and a half of dollars. The Bank of the United States, chartered in 1791, added ten millions of dollars to that amount. Before the closing of this establishment by the expiration of its charter in 1811, there were in the United States eighty banks, with a capital of twenty million dollars, and a stockholders' capital of about forty-two million dollars. A great increase upon this number and amount has since taken place: on the 1st of January, 1834, there were throughout the Union 397 state banks, with capital of forty-eight millions of dollars; and from a paper laid before Congress in June, 1834, it appeared that the number of banking establishments was increased to 506, and that the amount of their capital paid up was 265,123,792 dollars.

It may well be imagined that so great and rapid an extension of the banking business could not have arisen altogether from the wants of the community, but must have been based upon a spirit of speculation adverse to its interest. It is therefore not surprising that shortly after the war broke out between the United States and this country in 1812, a great portion of these banks, including all south and west of New England, were obliged to suspend their specie payments. For adopting this measure the American bankers could not adduce the same reason as led to the Restriction Act in England in 1797; they must have been placed in so unfavourable a position solely through the ruinous competition which had led each of them to force as large an amount of its notes upon the public as possible, in order to draw the largest amount from the banks which were the manner forced out of the country; and when the war broke out, and confidence began to be shaken, the bankers were wholly unprepared for the change.

The dissolution of the United States Bank in 1811 had far-reaching effects upon the whole system of private bankers, by widening the sphere of their business, without adding in any way to their means of conducting it. On the contrary, a very large proportion of the stock of the United States Bank having been held by foreigners was remitted abroad, and this being a remittance suddenly called for out of the ordinary course of commerce, was in great part effected by the exportation of the precious metals. The suppression of the United States Bank had been attended by the further consequence of calling new banking establishments into action in order to fill the chasm. In the four years from 1st January, 1811, to 1st January, 1815, no fewer than 120 new banks were chartered, with nominal capitals amounting in the aggregate to forty millions of dollars.

In the spring of 1816 some of the specie payments in the United States, the paper currency was increased about fifty per cent., and its value was depreciated on the average about twenty per cent. as compared with bullion. It continued to flow until after the organization of the New Bank of the United States, in January, 1817, that delegations from the banks in the principal commercial states having met at Philadelphia to consider of the circumstances in which their establishments were placed, determined upon simultaneous suspension of payments in specie, a measure greatly assisted by the importation of a large amount of bullion by the newly established public bank.

This course was followed by such a contraction of their issues on the part of private bankers as occasioned great and widespread commercial distress. Debts contracted in the depreciated currency became suddenly payable at its par value, while the facilities usually obtained from the banks for their liquidation were as suddenly stopped by a refusal of the banks to accept such notes. At such moments as these, when the turning good sense of a people leads them to resume the soundness of their currency, that the full evils of a departure from true principles are felt. Up to a certain point this measure of depreciation of the currency was accompanied by a delusive show of prosperity, but which was as sure in the end to have all its fallacy revealed. Mr. Gallatin states that the number of banks that failed between 1811 and 1830, in different parts of the Union, was 164, which had paid out a capital of about twenty million dollars, and a stockholders' capital of near thirty million dollars. In some of these cases the loss fell for the greatest part upon the holders of bank notes and on depositors; the stockholders had paid for these shares in their own bills, and in promissory notes, which, remaining in the hands of the bank they afterwards received on delivering up to be cancelled the stock in their names, and thus suffered no loss.

With one solitary exception—that of the bank of the late Mr. Girard in Philadelphia—all the private banks established in the United States are joint-stock companies incorporated by law, with fixed capitals, to the extent of which only the stockholders are in any cases responsible. The business of all consists in receiving deposits, discounting mercantile bills, lending money on security, and issuing notes. They may afford a clearer view of the system of business pursued by these banks if we give from Mr. Gallatin's excellent pamphlet 'On the Currency and Banking System of the United States,' the following abstract of the structure of the thirty-one chartered banks of Pennsylvania in November, 1829:

<table>
<thead>
<tr>
<th>Notes in circulation</th>
<th>12,930,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Par value of stock</td>
<td>6,700,000</td>
</tr>
<tr>
<td>Capital</td>
<td>500,000</td>
</tr>
<tr>
<td>Surplus stock</td>
<td>1,320,000</td>
</tr>
<tr>
<td>Surplus bond</td>
<td>1,490,000</td>
</tr>
<tr>
<td>Total capital</td>
<td>14,280,000</td>
</tr>
</tbody>
</table>

In considering what would be the situation of these banks, in the event of such an impairing of public confidence as would occasion a run upon them, we must not take into the account the item of notes and balances due by other banks, which form part of the deposits, and must go to reduce the sum of 16,036,000 dollars on the other side of the account. The amount that 16,036,000 dollars would bear to this sum is not quite one-twelfth, and although the amount of discounted bills might be progressively diminished by their falling due, it is evident that such a mode of relief to themselves could only be adopted by the banks as a last resort, when every other source of income was exhausted, and in the event of the most alarming crisis. On the other hand, if we consider the relations of the state, in the prosperity of which their whole safety, as well as the security of the holders of these notes, is involved.

The legateses of several of the states have by no means neglected this important subject, and have endeavored to provide for the prudent management of the banks by limiting the amount of their issues in proportion to their capitals, requiring that not less than a certain proportion (generally 50 per cent.) of their nominal capitals shall be actually paid up in gold or silver, and existing in their vaults, before they begin business, and by rendering the directors of each bank personally responsible for the consequences of breaking these and other rules formed for the protection of the public.

In Massachusetts the banks are restrained from issuing notes for a less sum than one dollar. The States of Pennsylavnia, Maryland, and Virginia have forbidden the issuing of depreciation of their notes, and notes are payable in specie; and if such payment be refused, the bank is liable to pay the holder damages at the rate of 24 per cent per annum for the time payment is refused or delayed. The banking system of Massachusetts has been much extolled and praised in popular, as well as by the banks of Boston have been held up as models for imitation. Certain is it, that since the passing of the present laws regulating banking, no instance has occurred of the failure of any bank in Boston. The circumstances may in a great measure be accounted for by the fact, that in the event of a run upon...
any one of them, the other banks immediately come forward to its assistance with all their disposable resources, provided its total assets can be shown to be equal to the amount of its liabilities; and this assistance would be continued until, by withholding discounts, calling in deposits, and declining its assignable securities, it would be enabled to satisfy all its claims without inconvenience.

Instances have occurred, disgraceful to the parties concerned in the management of some of these banks, who have borrowed for a single day the amount of specie receivable by law to be in their coffers before the commencement of business—have submitted this borrowed specie to the inspection of the commissioners appointed for the purpose, and have sworn that it formed the first deposit paid by the subscribers to the full amount of the design of the legislature. Such proceedings cannot have been common; and it may be imagined that no body of men capable of such a juggle would sufficiently enjoy the confidence of their fellow-citizens to be able successfully to embark in a business where that confidence must be so essential a part of the stock in trade.

In New York, Maryland, and some other of the states, the charter of a bank is forfeited from the moment that it refuses to pay its notes or deposits in specie.

There are twenty incorporated banks in the city of New York, some of which paid a bonus to the state for their acts of incorporation. Their capitals amount to twelve millions of dollars. A branch of the United States Bank is also established in the city, and about one-sixth of its capital is considered to be applicable to this station, giving thus a banking capital to the city of about four millions sterling. With the exception of the Bank of the United States, whose smallest note is three dollars, all the banks existing in New York issue notes for one dollar and upwards. All the banks discount mercantile bills. No interest is allowed on deposits; and in fact, the activity of the trade of the city is so great in comparison with the capitals of the merchants, that deposits for such a length of time as would justify the payment of interest are unknown.

An Act was passed by the legislature of the state of New York, in April, 1829, called the 'Safety Fund Act,' to the provisions of which 'all moneyed corporations thereafter to be created or re-created are subjected.' Under one of its provisions, every such corporation is obliged, on the 1st of January in each year, to pay to the treasurer of the state one-half or one per cent, at the option of the managers, on the amount of the capital stock of the bank, and to continue such payment until three per cent. in the whole shall be paid: this fund to remain perpetual in the hands of the treasurer, and to be solely appropriated to the payment of the debts of such banking corporations as may become insolvent. In the meanwhile the proportion of interest from its paying is to be paid to the credit of each bank, after providing for the payment of salaries to certain commissioners who are appointed to investigate at least four times in every year the affairs of each banking corporation in the state. These commissioners are elected by the depositors or by the officers of the banks upon oath, to inspect the books, &c.

In all cases where, from the date of their incorporation, and the determination of the directors of any bank not to bring themselves under the provisions of this act, they do not contribute to the Safety Fund, those directors are held personally liable to the full extent of all losses which the shareholders or creditors of the bank under their charge may sustain by reason of their departure from the course of management prescribed by the law. All the officers of the banks in the city of New York were contributors in 1832 to the Safety Fund.

In providing thus for the payment of notes in specie, the legislatures have not insisted that coin of the United States be used; and it has been the practice to adopt a schedule of prices at which the coin of different countries shall be considered good tender of payment. Some of the banks have fairly enough availed themselves of the right to refuse to accept any coin that was obliged continually to answer every commercial demand for specie. Very shortly after the opening of the New United States Bank, the directors found themselves under a continued necessity of this kind. Having made ample provision from their small Parisian dollars, they were obliged to drain them for the purpose of exportation to China, for which purpose that description of coin is well suited. This involved the bank in a constant expense, which was at once avoided by importing the value of five millions of dollars in the old six franc pieces of France, now withdrawn from circulation in the latter country, under which circumstance they were purchased on reasonable terms. These pieces they offered in payment at the scheduled price whenever the specie demand was so great; but as these coins were not adapted to the mercantile purposes in view, they suffered to remain quietly in the vaults of the bank, which has recently remitted back the whole amount in the original packages to France.

BANKS FOR SAVINGS are institutions of modern invention, established in this country to encourage habits of prudence on the part of the poorer classes, who were previously without any places where they could safely and easily deposit the small sums which they might be able to set aside from their earnings.

The origin of savings' banks has been attributed to the Rev. Joseph Smith of Wendover, who, in the year 1799, circulated proposals, in conjunction with two of his parishioners, in which they offered to receive from any inhabitant of the parish any sum from two pence upwards every Sunday evening during the summer months, to keep an exact account of the money deposited, and to repay at Christmas to each individual the amount deposited, with the addition of one-third to the sum as a bounty upon his or her economy. The depositors were at liberty to demand and receive back the amount of their savings, without standing this bounty, at any time before Christmas that they might stand in need of their money.

The next institution of this kind that was established, of which we have any account, was founded at Tottenham in Middlesex, by Mrs. Priscilla Wakefield. This, which was called the Charitable Bank, bore a near resemblance to the savings' banks of the present day than the Wendover plan. The Tottenham bank was opened in 1804. At first the accounts were kept by Mrs. Wakefield, who was assisted, in other respects, by six or seven depositors, who undertook each to receive an equal part of the sums deposited, and to allow five per cent. interest on the same to such depositors of 50 shillings and upwards as should hold their money for at least a year in their hands at the simple value of the amount of the deposits.
trustees were chosen, so as to diminish the loss which might otherwise have been considerable, owing to the high rate of interest that was allowed. In 1808 a society was formed at Bury St. Edmunds, individual subscriptions of 2s., 1s. 6d., 1s. 3d., and 6d. per annum, were received from ladies, who received the savings of domestic servants, and allowed interest upon the same at the rate of four per cent.

The Parish Bank Friendly Society of Ruthwell was formed in 1810 by Mr. Henry Duncan, who published an advertisement soliciting deposits, and hoping to establish similar establishments elsewhere. This was the first savings bank, regularly and minutely organised, which was brought before the public, and it is doubtless owing to the successful experiment at Ruthwell that the number of seventy savings banks established in England, four in Wales, and four in Ireland.

In the year just mentioned legislative provisions were first made for the management of these institutions. Acts were passed (37 Geo. III. c. 115, 116 and 117) for encouraging the establishment of banks for savings in Ireland and England respectively. Under these acts, the trustees and managers, who were prohibited from receiving any personal profit or advantage from the institutions with which they were connected, were required to enroll the rules of their institutions at the sessions. A fund was established in the office for the reduction of the national debt in London, entitled, 'The Fund for the Banks for Savings,' and to this fund was bound to contribute the amount of deposits that might be made with them when the sum amounted to 50l. or more. For the amount so invested the trustees received a debit, carrying interest at the rate of three per cent per annum, or 11s. 3d per cent. per annum or 12s. 6d per cent. per annum, and the rate of interest then usually allowed to depositors was four per cent. In Ireland the depositors were restricted to the investment of 50l. in each, and in England the same restriction was imposed, with a relaxation in favour of the first year of a person's depositing, when 100l. might be received.

No further restriction was at this time thought necessary as to the amount invested, neither was the depositor prevented from investing successively in as many different savings banks as he might think proper, provided he was liable to abuse, and an act was passed in 1824, which restricted the deposits to 50l. in the first year of the account being opened, and 30l. in each subsequent year, and when the whole should amount to 200l. exclusive of interest, no further interest was to be allowed. Subscribers to one savings bank were likewise not allowed to make deposits in any other, but the whole money deposited might be drawn from one savings' bank in order to be placed in another.

In October, 1825, a parliament was passed, entitled 'An Act to consolidate and amend the laws relating to Savings Banks,' and it is under the provisions of this act (9 Geo. IV. c. 92) that all savings' banks are at present conducted. It is provided that all the rules of the savings' bank shall be signed by two trustees, and submitted to the commissioners for the reduction of the national debt, for the purpose of ascertaining whether the same are in conformity to law, and that the said barrister shall give a certificate thereof, which, together with the rules signed by the trustees, shall be laid before the justices for the county, riding, division, or place at the general or quarter sessions; and it shall be lawful for such justices to reject and disapprove of any part or parts thereof, or to allow and confirm the said rules or such parts as shall be conformable to the act. The rules and regulations thus made and confirmed are to be deposited with the clerk of the peace for the county or division, and are then declared to be binding on the officers and the depositors of the institution. The money deposited in savings banks must be invested in the Bank of England, or in Ireland, in the names of the commissioners for the reduction of the national debt. The receipts given to the trustees of savings banks for money thus invested shall be made out at the rate of one per cent per annum, or 2l. 16s. 4d. per cent, per annum, while the interest paid to depositors must not in any case exceed 2l. per cent per annum, or 3l. 16s. 4d. per cent per annum, the difference being paid to the trustees to defray the expenses of the bank. The trustees are not allowed to receive deposits from any individuals whose previous deposits have amounted to 500l., and when the balance due to any one depositor amounts with interest to 1000l., no further interest is to be paid. Finally, a savings bank is an institution that invests not exceeding 500l.,

The increase of savings' banks has been great beyond all expectation. On the 20th November, 1833, there were 385 savings banks in England and Wales, and 41 in Scotland, with 584,000 depositors, which amounted to 13,973,242l., being on an average 34l. for each depositor. There were at the same time in Wales 23 savings' banks, having balances accruing to the amount of 361,150l., belonging to 11,243 depositors, being on an average of 32l. 10s. for each depositor. There were 76 savings banks, with funds amounting to 1,720,714l., deposited by 49,872 persons, the average amount of whose deposits was 28l. The total for England, Wales, and Ireland was consequently 484 savings' banks, with funds amounting to 15,777,453l., deposited by 177,876 persons, the average amount of whose deposits was 273l., and the average amount of deposits was consequently 33l.

The system has not hitherto been adopted in Scotland, where it appears to be less needed in consequence of the facilities afforded by the banks for deposit of money in deposit, and allowing interest on them. The establishment of savings' banks in Scotland would, however, extend this advantage to a very large number of persons who are unable to get together the least sum that the bankers will receive. On the 20th November, 1833, there were 244,375 depositors of sums under 50l. in the savings' banks of England, Wales, and Ireland, whose savings amounted to 1,734,750l., being an average of 7l. 1s. 10d. for each depositor; the smallest sum receivable in deposit by bankers to bear interest in Scotland is 10l.

By a recent act (3 William IV. c. 14) the insurance classes are encouraged to purchase annuities, to commence on the 20th November, 1833, savings' banks being made a place of purchase-money being paid either in one sum at the times of agreement, or by weekly, monthly, quarterly, or yearly installments, as the purchaser may determine. The transactions under this act are to be carried on through the medium of savings banks, or by one or more established for that purpose, and of which the rector or other minister of the parish, or a resident justice of the peace, shall be one of the trustees.

Rules framed in agreement with the statutes have been issued by the commissioners for the reduction of the national debt. These rules provide, among other things, that no person being a trustee, treasurer, or manager of the society, shall derive any emolument, direct or indirect, from funds, that the treasurer, and the paid officers of the society, give security for the faithful execution of their trusts, that the age of the party, or nominees, upon whose life the annuity is contracted, must not be under fifteen years; that no one individual can possess, or be entitled to, an annuity, or annuities, exceeding 100l. per annum; that no annuity of less than 6l. can be contracted for; that no annuity may purchase annuities. The annuities are payable half-yearly, on the 5th of January and 5th of July, or on the 6th of April and 10th of October. If any person wishes to have the annuity assigned to another, it may be done by the assignor, in the case of an annuity of 100l. or less, by writing the assignment on the blank provided for the purpose, and the assignment shall be repaid by the commissioners for the reduction of the national debt. If the purchaser of an annuity should be unable to continue the payment of his installments, he may at any time, on giving three months' previous notice, rescind his obligation, and have his capital repaid, but without interest. If the purchaser of a deferred life annuity should die before the time arrives at which the annuity would have commenced, the whole of the money or money's worth, when the annuity becomes due, will be paid to the creditors, and will be repurchased, at a fair valuation, by the commissioners for the reduction of the national debt. If the purchaser of an annuity should be unable to continue the payment of his installments, he may at any time, on giving three months' previous notice, rescind his obligation, and have his capital repaid, but without interest. If the purchaser of a deferred life annuity should die before the time arrives at which the annuity would have commenced, the whole of the money or money's worth, when the annuity becomes due, will be paid to the creditors, and will be repurchased, at a fair valuation, by the commissioners for the reduction of the national debt.
and severe penalties. The rules of societies formed for carrying into effect the purposes of this act must be agreed upon by the members, and subscribed by the bankers appointed for the purpose, and enrolled with the clerk of the peace for the county or division in the manner already described with regard to the rules of savings banks.

Annuity tables, calculated under the direction of Government, for every admissible period of age, and for every probable deferred term, may be had at the office of the commissioners for reducing the national debt, in the Old Jewry, London.

This measure appears to be well calculated for enabling the indigent classes to secure a small provision in the time of their youth and strength, for the days of their age and decline, and for insuring them, while yet unencumbered, to apply the surplus of their earnings to meet the wants of their age, or become connected with or dependent on them in after life.

(History of Savings Banks, by J. Talid Pratt; The Law relating to the Purchase of Government Annuities through Savings Banks and Parochial Societies, by the same author.)

BANKRUPT (bankraverse, a bankrupt, and banque—route, bankruptcy—from bancus, the table or counter of a tradesman, and ruptus, broken) is a merchant or trader whose property and effects, on his becoming insolvent, are adjudicated to the benefit of all his creditors, under that peculiar system of statutory regulations called the Bankrupt Laws. These laws, which originated in England with the statute 31 and 33 Henry VIII, c. 4, were first mainly directed against the criminal frauds of the traders, and provision was made for the purchase of the real and personal estate, and goods of others, and then to fled into foreign countries, or lived in extravagance, and sluded and defrauded their creditors. The bankrupt was consequently treated as a criminal offender; and until within a few years, the not duly surrendering his property, under the Bankruptcy laws, was a capital felony. The Bankrupt laws are now, and have for some time past, been regarded as a connected system of civil legislation, having the double object of enforcing a certain order in the discovery and equitable distribution of the property and effects of an insolvent trader, and of conferring on the trader the reciprocal advantage of security for person and a discharge from all future claims of his creditors. These laws were till lately spread over a voluminous accumulation of statutes, referring to and depending on each other, and often creating confusion and inconveniences from their diffuse and contradictory provisions. These were, under the auspices of Lord Eldon, repealed, and their provisions altered and consolidated into the present general Bankruptcy Act, 9 Geo. IV, c. 56, or the Bankruptcy Act of the 2d of William IV, c. 56, constituting the Court of Bankruptcy, has materially altered the mode of administration of the Bankruptcy jurisdiction in the first instance of cases of bankruptcy from the Court of Chancery to the new Court of Bankruptcy, reserving only an appeal from the Judges of that court to the Lord Chancellor, as to matters of law and equity and questions of evidence. Instead of the commission under the Great Seal, which formerly issued to a certain number of barristers-at-law who were permanent Commissioners of Bankruptcy, the above Act has substituted a flat of bankruptcy, over which the Lord Chancellor will preside in the manner hereinafter. Other important alterations are introduced, which will be more fully noticed in their proper place.

In considering the provisions of the Bankrupt Law, we must explain—

1. What is a bankrupt?
2. What are the effects of bankruptcy?
3. The flat and proceedings by which the trader is made a bankrupt.
4. The proof of debts under the flat.
5. The assignees, their powers, and duties.
6. The vesting of the bankrupt's property and effects in the assignees.
8. The certificate and allowance of the bankrupt.
9. The Court of Bankruptcy.

10. Who may be made a Bankrupt.—The Bankrupt Act, 6 Geo. IV, c. 16, enacts that 'all bankers, brokers, and persons using the trade or profession of a conveyer, receiving money in trust for the safety, repayment, or sale of any real or personal property or any money due from any person, and persons insuring ships, or their freight, or other matters against perils of the sea; warehousemen, wharfingers, packers, builders, carpenters, shipwrights, victualers, keepers of inns, taverns, shops of any kind, dealers in dyers, printers, bleachers, fullers, calenderers, salt or sheet metal, and all persons using the trade of merchandising by way of bar gaining, exchange, bartering, commission, consignment, or otherwise in gross or by retail; and all persons who, either for themselves or for others, act as agents of others in seeking their living by buying and selling, or by buying or letting for hire, or by the workmanship of goods or commodities, shall be deemed traders liable to become bankrupt; provided that no farmer, grazier, common labourer or workman for hire, or enter-preneur of a trade, or any member of the trade that has or seeks to incorporate commercial or trading companies, established by charter or Act of Parliament, shall be deemed, as such, a trader liable, by virtue of that Act, to become bankrupt.'

The above enumeration has given rise to a variety of decisions in the courts of law. It is not every single act, or even every series of acts, of buying and selling which constitutes a man a trader within the law; there must be an accessory personal character. This accessory personal character has been held to be supplied by the sale by trading. Thus a schoolmaster who sells books to his scholars; a colonel of militia, who occasionally sells regimental horses; a master of hounds, who buys dead horses, and sells off the skin and bones; a farmer, who lives by making milk for his contemporaries, and only sells their cows when they become unfit for use; a farmer, who buys and sells articles not with a view of making profit, but merely as auxiliary to the carrying on of his farm—these and many similar persons, who have been held not to be traders. And the same has been determined with respect to an owner of coal-mines, who digs and sells his coal—

1. A person having a freehold interest or a term of years, in a coal mine, or brick-ground, who sells the bricks made from his coal, in a year or a year and a half, if he purchased the bricks.
2. A person who, in a brick-earth, would be otherwise. If a trade retires making bricks, and in such an earth, the trade is not deemed unprofitable, and may continue to be traded, still, while the trade is not deemed unprofitable, and may continue to be traded.

The acts by which a person becomes liable to be a Bankrupt.—These acts are two sorts: first, those which make him a Bankrupt.

1. Any act of bankruptcy, as when done with intent to defraud, or delay his creditors; secondly, certain acts which have that effect, or delay his creditors; secondly, certain acts which have that effect, or delay his creditors.

The first class, effect, without reference to any h. Geo. IV, c. 16, which are enumerated in section 3 of the c. 16, or of departing from the realm, or of departing from the realm, or of departing from the realm, or of departing from the realm. The first class, effect, without reference to any h.

Departing the Realm.—This must be done with a view to defeat or defraud creditors, or it will not constitute an act of bankruptcy; but if it is done with such intention it is an act of bankruptcy, though not delayed by it. The intention is, in general, a question of fact to be decided by a jury. If a man leaves the realm in such circumstances that a delay of his creditors will be the almost necessary consequence of his departure, he will be considered to have intended the delay, though not within the meaning of the law. The word 'realm' means the jurisdiction of the courts of England, and therefore departing from Ireland or Scotland, or a British colony, which are out of such jurisdiction, may constitute an act of bankruptcy.

Trader departing from his Dwelling House.—If this is done with the intent to delay creditors, it is an act of bankruptcy, though done actually delayed. And if the
trader departs without making the necessary arrangements for carrying on his business, it will be presumed that he had the intention specified in the act. The absence must be voluntary, and not to avoid an arrest, in order to constitute an act of bankruptcy. And the trader’s own declarations of his fear of an arrest, &c., are evidence of his intentions, if they accompany corresponding acts, such as removing his goods, books, &c.

Or otherwise absent himself.—A trader’s absenting himself must be clear, positive, and not by reason of an arrest, in primis facie evidence of his intention to delay his creditors. And the absenting himself from the Royal Exchange, if he habitually frequents it, or from any temporary place of resort, may have the same effect. The presence of the trader, or his being seen being about to leave London, or being under orders to be detained, was held to commit an act of bankruptcy. But a mere breach of an appointment with a creditor will not be so considered.

These words having been adopted in the early statutes respecting bankrupts, have acquired a well-known technical meaning, signifying the trader’s retiring or concealing himself in his house or place of business in order to avoid creditors, or the giving orders to be done in case they should call. A general order of denial may be an act of bankruptcy although no creditor in fact call on the trader; and the denial may be at a friend’s house, as well as at the house of the trader himself.

Certifiable adjutants of a bankrupt-house has been held a ‘beginning to keep houses’, although the trader did not reside at the banking-house.

Or yield himself to prison.—This must be a voluntary yielding to prison by a trader who, on his arrest, has funds for the payment of his creditors before going to prison to defeat his general creditors. A compulsory going to prison under an arrest is only an act of bankruptcy when the imprisonment endures twenty-one days.

Or suffer himself to be outlawed.—That is, if a man keep out of the way with intent to defraud his creditors, in consequence of which he is outlawed for want of due appearance to legal process.

Willingly or fraudulently procure the goods to be sequestered. This means both the forfeiture of fraudulent attachments of the trader’s goods under the orders of foreign attachément in London and other cities [see Attachment], and fraudulent judgments and executions out of the superior courts.

Or make, either within the same or elsewhere, any fraudulent conveyance or grant of his lands, tenements, goods, or chattels. Before the present bankruptcy, the presence of the trader’s property, if executed abroad, was held no act of bankruptcy, a defect remedied by the above clause.

An assignee of all a trader’s effects to trustees for the benefit of creditors merely effects a clear act of bankruptcy, since it is an act of bankruptcy under the Bankruptcy Act, and in which the property in persons of his own choice, instead of those under the control of the Great Seal. But if all the creditors (as often happens) consent to, and sign such an instrument, it becomes valid, since they are then estopped, by their consent, from treating it as an act of bankruptcy. And by the 4th section of the 6th Geo. IV. c. 16, such an assignment shall not be deemed an act of bankruptcy unless it is made against the trader within six calendar months from the execution; provided the assignment be executed by every trustee within fifteen days from the date of the execution by the trader, and the execution is attested and published in the manner prescribed by the statute.

An assignment of part of a trader’s effects is, in many instances, perfectly good and valid; but if he assign the whole with only some colourable exception, it is an act of bankruptcy; and, in general, if he assign over so considerable a portion of the trader’s property, it is a fraudulent assignment, and will generally estop him from carrying on his trade, it is an act of bankruptcy; and if the assignment be made voluntarily, that is, without the pressure of the creditor, and with a view to defeat his creditors, though not made in immediate contemplation of bankruptcy, constitute in itself an act of bankruptcy; and, in fortiori, it will have that effect if made under such circumstances as show that the trader must, at the time of executing it, have reason to fear an arrest.

Or make any fraudulent gift, delivery, or transfer of any of his goods or chattels. The transfer or delivery of goods or chattels must, in general, be voluntary, and not brought about by terror of legal process, or even by the importance of a creditor; and, in some cases, even the circumstance of the proposal to make the delivery coming from the creditor, not from the bankrupt, has been held to negate the fraud. But whether of his voluntary motion, or under pressure of a creditor, if a trader transfer over the whole of his effects, or such a portion of them as must necessarily lead to insolvency, he commits an act of bankruptcy.

The acts of bankruptcy above enumerated depend upon the trader’s intention in doing the act. The following are the acts which constitute acts of bankruptcy, whether done with or without intention.

Or file a declaration in insolency. Under the old law, no effectual provision was made for enabling an honest man who believed himself to be in distress to subject himself to the Bankruptcy Act, and thereby to produce an equal distribution of his property among his creditors. To remedy this defect, it is provided by section 6 of the 6th Geo. IV. c. 16, that if a trader file with the secretary of bankrupts a certificate and declaration of his insolvency, and swear or affirm that he believes himself to be insolvent, and that his property is insufficient to pay his debts, such certificate and declaration shall become an insolvent discharged for two years after the expiration of such certificate and declaration, and such certificate and declaration shall be filed and published by the secretary of bankrupts, and shall remain on record until such time as the certificate and declaration shall be revised.

The Bankruptcy Act does not now, and never did, make the mere circumstance of being arrested an act of bankruptcy. The most substantial trait is, whereby, the insolvent debtor, after three months and thirty days, without being able to procure bail, or of escaping out of prison, to avoid payment of the debt.

Filing a declaration in insolency. Under the old law, no effectual provision was made for enabling an honest man who believed himself to be in distress to subject himself to the Bankruptcy Act, and thereby to produce an equal distribution of his property among his creditors. To remedy this defect, it is provided by section 6 of the 6th Geo. IV. c. 16, that if a trader file with the secretary of bankrupts a certificate and declaration of his insolvency, and swear or affirm that he believes himself to be insolvent, and that his property is insufficient to pay his debts, such certificate and declaration shall become an insolvent discharged for two years after the expiration of such certificate and declaration, and such certificate and declaration shall be filed and published by the secretary of bankrupts, and shall remain on record until such time as the certificate and declaration shall be revised.

By the 4th section of the present bankrupt act, if new bankrupts, or the insolvent debtor, is able to make good the person suing out the same, money, or give or deliver to any such person satisfaction or security for his debt, whereby such person may receive more in the pound than the other creditors, such payment or gift shall be void; and if any fact be proved, it shall be voided, the Lord Chancellor may, on proof of such fact, within two months after the intimation of the advertisement, and the advertisement must be signed within eight days after the declaration is filed.

In addition to the above acts of bankruptcy, the insolvency of a debtor filing a petition for his discharge under the Insolvent Debtors Act is, by the statute 7th Geo. IV. c. 37, declared an act of bankruptcy, on which a fine may be imposed.

Acts of bankruptcy by tradesmen, or persons engaged in trade, for the benefit of their principals. As a trader being a member of parliament is not liable to personal arrest for debt during the time of privileges, some special provisions were requisite to protect trade. The Bankruptcy Act of 1869 contains a proviso to secure the effect of bankruptcy, though not made in immediate contemplation of bankruptcy. Acts of bankruptcy by traders who have privileges of parliament. As a trader being a member of parliament is not liable to personal arrest for debt during the time of privileges, some special provisions were requisite to protect trade.

Acts of bankruptcy by traders who have privileges of parliament. As a trader being a member of parliament is not liable to personal arrest for debt during the time of privileges, some special provisions were requisite to protect trade.
a trader, and shall sue out a summons against him (in the form given by the 2 Will. IV. c. 39, the Uniformity of Process Act) - if such trader shall not within one month pay or secure the debt, or enter into a bond with two sureties, to be approved of by a judge, to pay the sum recovered in the action against him, with costs, and within one month after the entry of the bond, shall not appear in court to contest the suit, then every such trader shall be deemed to have committed an act of bankruptcy; and any of his creditors may sue out a fiat against him, as against other traders.

And by sec. 11 it is enacted, that if any decree or order of a Court of Equity or Bankruptcy, shall have been pronounced, ordering any such trader, having privilege of Parliament, to pay money, and such trader shall disobey the said order, and not secure the debt recovered in the Court to fix a peremptory day for the payment; and if such trader shall then neglect to pay the same, he shall be deemed to have committed an act of bankruptcy; and any of his creditors may sue out a fiat, and proceed as against other bankrupts.

The above are the various and the only acts which, according to the present law, render a trader liable to a fiat of bankruptcy. No other acts, however strongly they may indicate the envy or fraudulent intention in the trader, are sufficient on the face of the Act to commit him to bankruptcy. The act of bankruptcy may be committed after a trader has ceased trading; for so long as his trading debts remain unpaid, he is amenable to the law of bankruptcy. The debt, however, on which it is necessary to depend, is the one contracted during the period of his trading. The act of bankruptcy, in order to ground a fiat, must not be concerted and arranged with the creditor who prosecutes the fiat, except in the particular instance of the act of bankruptcy formerly exercised in cases of insolvent assignees under the Bankruptcy Act, or at the Bankruptcy Office. And although the act of bankruptcy will not be sufficient, if concerted, yet, if a sufficient act of bankruptcy has been bond fide committed by the debtor, there is no objection to the fiat issuing under a circuit a, or in the same Act, where the Lord Chancellor, having formerly power to issue such commission, the Lord Chancellor, the Master of the Rolls, the Vice Chancellor, and each Master in Chancery, acting under the appointment of the King and the Lord Chancellor, may in like manner to commit a petitioner or his creditor to prosecute his claim in the Court of Bankruptcy, or elsewhere, before such persons as the fiat shall nominate; and the persons so appointed are invested with all the power and authorities which belonged to the commissioners formerly named in commissions of bankruptcy under the Great Seal.

Before the 1 and 2 Will. IV. c. 56, s. 12, which abolished commissions, and substituted fiat of bankruptcy, the Lord Chancellor used, by a commission under the Great Seal, to appoint such persons as to him seemed fit, who, by virtue of the Bankruptcy Acts and of the commission, had authority to dispose of the person and property of the bankrupt for the advantage of his creditors. The new Act, 1 and 2 Will. IV. c. 56, constituting the Bankruptcy Court, has substituted a simple fiat for the commission under the Great Seal; and although, by the Act, where the Lord Chancellor, having formerly power to issue such commission, the Lord Chancellor, the Master of the Rolls, the Vice Chancellor, and each Master in Chancery, acting under the appointment of the King and the Lord Chancellor, may in like manner to commit a petitioner or his creditor to prosecute his claim in the Court of Bankruptcy, or elsewhere, before such persons as the fiat shall nominate; and the persons so appointed are invested with all the power and authorities which belonged to the commissioners formerly named in commissions of bankruptcy under the Great Seal.

The phrase 'or elsewhere, &c.,' in the above clause, has reference to the fiat issued to commissioners in the country districts; as to whom, sec. 14 provides that the judges on the circuit shall have power to issue fiats to return to him the names of so many barristers, solicitors, and attorneys practising in the different counties as he shall require; and the fiats which are not directed to the Court of Bankruptcy shall be directed to one or more of the persons so returned, to act as commissioners of bankruptcy; and the Lord Chancellor has the power of removing any such person from the list.

We shall see presently that a great portion of the jurisdiction in bankruptcy, which, formerly was to the Lord Chancellor, is now vested in the new Court of Bankruptcy; but that Court has no power of originally directing or issuing a fiat. This authority resides entirely in the several judges and masters of the Court of Chancery, not possessed by the Court of Bankruptcy, as is requisite for the term debito jus titione, on the application of a sufficient petitioning creditor, in the manner before mentioned. The Lord Chancellor alone has also the power of rescinding and annulling a fiat; his order to that effect has the same force as the supersedeas of a commission according to the former law.

Having explained the nature of the fiat, we proceed to consider the persons to whom it is directed: they are, as we have seen, first, a Commissioner of the Court of Bankruptcy, or, secondly, commissioners resident in the country.

The Court derives its jurisdiction from the 1 and 2 Will. IV. c. 56, whereby the King is empowered, by letters patent under the Great Seal, to establish a Court ofJudicature in Bankruptcy; and by that Act, the King is also enabled to appoint a 'Chief Judge,' being a sergeant or barrister-at-law of ten years standing, and three other judges, persons of the same description, and six barristers of seven years standing, to be called Commissioners of the Court, and with the judge and commissioner thereof, exercise all the rights and privileges of a Court of Record, as fully as the same are exercised by any of the courts or judges at Westminster.

By the 36th of Geo. III. c. 35, the Court of Bankruptcy, in all matters within their jurisdiction, may take the whole or any part of the evidence, either oral or on affidavits, as the Court of Bankruptcy may in any case direct, or as the Lord Chancellor may, by a general rule, prescribe. The functions and powers of the component parts of the Bankrupt
In case of a country bankruptcy it is this:—

I hereby authorize A. B., of...

In the Court of Bancrupcy.

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creditors' debts is the next step to be considered. The commissioners, we have seen, are bound to appoint two meetings immediately upon the adjudication of bankruptcy, and at these and every other meeting (with ten days' notice in the London Gazette) appointed for that purpose, the creditors may prove their debts or certify corporative obligations, which, if not made by an authorized agent, creditors living at a distance by affidavit, and creditors out of England by affidavit verified by a notary public, minister, or counsel; and by a special provision, the person effecting a policy of assurance on the estate of a bankrupt in the lands and goods of another, who is not the debtor, and who is not himself financially interested, may make proof in case of loss. All debts legally due from the bankrupt at the time of the act of bankruptcy are provable, and also all debts contracted before the issuing of the flat, though subsequent to the act of bankruptcy. Where the bankrupt, at the time of his contracting, had no knowledge of the act of bankruptcy, obligees on bottomry and respondentia bonds, and the assured in policies of assurance, are entitled to make claim before the commissioners, and when the loss or contingency happens on which the debt depends they may then prove the debt and receive dividends with the other creditors, notwithstanding the contingency or loss may not arise till after the issuing of the flat; and all creditors having claims upon the bankrupt which depend on any contingency, may, upon application to the commissioners, be set up as contingent claimants, and be admitted to prove for the debt thus ascertainment. In cases where parties have become bail or sureties for the bankrupt, and have paid the debt or a part thereof (though after the issuing of the flat), if the principal debtor is not proved for his debt at the time the sureties are entitled to stand in the place of the creditor as to the dividends and all rights under the commission; or where the creditor has not proved his debt, such surety is entitled to his debt in the commission, as if the payment had been made, so as not to disturb former dividends of the bankrupt's estate; and this, although such surety may have become surety for the bankrupt subsequent to the act of bankruptcy, provided he had no notice thereof when he became a surety, and is entitled to their payment when the bankrupt owes annuity debts, all such creditors may prove for the value of the annuity, which the commissioners are to ascertain, having regard to the original price given, and to the diminution of value from lapse of time between the granting of the annuity and the date of the flat. With respect to interest on debts, the general rule is, that no interest is provable unless interest was reserved by contract, either express, or arising by implication from the usage of trade, or other circumstances attending the origination of the debt. In the absence of such evidence, debts are allowed so much interest as the court, in their discretion, think reasonable. A bond for assignees, joint creditors may prove under a separate flat, and separate creditors under a joint flat, without regard to the above rules.

If the whole firm become bankrupt, being indebted to any single partner or any number of partners, he may prove his debt in the same manner; 2nd, a joint creditor of the whole firm may prove against the separate estate of any one partner who is bankrupt, provided there is no partner who is solvent; but if there is a partner who is solvent, then the joint creditors cannot come into competition with the separate creditors of the partner who is bankrupt; but for the mere purposes of ascertaining to what extent and for what period, the estate of the bankrupt is sufficient for assignees, joint creditors may prove under a separate flat, and separate creditors under a joint flat, without regard to the above rules.

There are certain classes of creditors which the legislature has peculiarly privileged. The commissioners are authorized to order that the clerks and servants of the bankrupt (which includes travellers and servants working by piece) shall receive their wages and salary, for not exceeding six months, out of the estate of the bankrupt; and they are at liberty to prove for the excess. In certain instances the creditor has a remedy for his debt; if he does not arise due at the time of the bankruptcy, the creditor is not bound to pay before the execution is registered, and prove his counter-debt and take a dividend only with the general creditors, but one debt must be set off against the other by the commissioners, and the balance only can be proved. If a都觉得 in order to be entitled to the benefit of this set off, the creditor must not have any notice of the bankrupt's act of bankruptcy at the time when he gave him credit. In certain cases, also, where the creditor has obtained a security or lien upon the bankrupt's estate, he is allowed to satisfy himself out of it, instead of being compelled to accept a mere dividend. Thus, if the creditor has obtained judgment against the bankrupt, and actually seized his goods under an execution, he is entitled to satisfaction out of the bankrupt's estate in the same manner as if the goods are actually seized before the bankruptcy, the creditor will not obtain this preference, but must rank with the other creditors. And if the creditor's judgment is not obtained in an adverse suit, but on a voluntary warrant of attachment, he will be entitled to the same preference as if the goods are seized before the bankruptcy happens. An extent for a debt due to the crown is still more favourably regarded: for as that debt is immediate, he finds the bankrupt's estate free from the extent from its issue (that is, from the date of its issuing), and the proceeds of the goods does not pass from the bankrupt till the appointment of the assignees, at which time it vests in them, if the crown extent issues before the appointment of assignees, the extent vests in the persons in whose favour it is made, and as assignees. Other crown process, such as a warrant to levy for land-tax money, obtains a preference for the crown from the time of the seizure, in case the assignees have not then been appointed.

A legal mortgage gives the mortgagee a right to retain the property mortgaged until his debt is satisfied, and the assignee of the bankrupt can only redeem it by paying the principal mortgage money, and all interest up to the date of the redemption; and an equitable mortgage, by mere demission of title deeds, in general, is not sufficient to vest the goods unless they are actually sold under the execution before the bankruptcy happens. An extent for a debt due to the crown is still more favourably regarded: for as that debt is immediate, he finds the bankrupt's estate free from the extent from its issue (that is, from the date of its issuing), and the proceeds of the goods does not pass from the bankrupt till the appointment of the assignees, at which time it vests in them, if the crown extent issues before the appointment of assignees, the extent vests in the persons in whose favour it is made, and as assignees. Other crown process, such as a warrant to levy for land-tax money, obtains a preference for the crown from the time of the seizure, in case the assignees have not then been appointed.

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to the Lord Chancellor to supersede it, which is the only mode in which they can dispose the validity of the flat.

The assignees are required to keep an account of all receipts and payments on account of the bankrupt, which every creditor may inspect. The commissioners may at all times summon the assignees before them, and require the production of accounts, and deliver the papers and documents relating to the bankruptcy; and, on their default without excuse, may cause the assignees to be brought before them, and on their refusing to produce such books, &c. may commit them to prison until they comply with the order. And no money in his hands, or employ for his benefit, or knowingly permit any co-assignees to retain or employ, any sum to the amount of 100l. or if he neglect to invest any money in Exchequer bills when ordered by the commissioners, he shall be held liable for per cent per annum. Assignees resemble trustees in being separately answerable only for what each receives, and they must all join in giving a good discharge for money belonging to the bankrupt's estate. If an assignee himself become bankrupt, being indebted to the estate of which he is assignee, and if he obtain his certificate, the certificate will only have the effect of freeing his personal property, and that the proceeds therefrom from his property are assets in the business of the bankrupt, and not liable to the personal estate. The assignees are entitled to reimbursement, either on his own application, or on that of a creditor.

2. The official assignees are merchants, brokers, or accountants, or persons who have or have been engaged in trade in London or Westminster, not exceeding a certain number appointed by the Lord Chancellor to act as official assignees in all bankruptcies prosecuted in the Court of Chancery, in which the Court shall appoint the several assignees, and the rents and profits of his estate, are received by the official assignees, where otherwise directed by the Court, the bankrupt or his creditors, or the Court, or in any other manner.

The Court of Chancery has power to order the assignee, together with any other person, to quit, remove, or surrender to the bankrupt, or his assignee, the things in any way belonging to the bankrupt unless they think proper; for some cases, such a property is burdened with rents and covenants beyond its value, and would prove a loss to the creditors. Such property, therefore, remains vested in the bankrupt, and possession in the hand of the bankrupt is sufficient for all property, not becoming to an acceptance, such as taking possession of it, or intermeddling with it in the possession of the person to whom it belongs. The bankruptcy has no personal property situated in the foreign country.

The assigning of any property, except the property of the bankrupt, or his assignees, to the use of the bankrupt, is not sufficient to discharge him from his liabilities. The property of the bankrupt and his assignees is not subject to the property of the bankrupt, and the bankrupt is answerable for his own debts, whether made before or after the date of the flat.
of the fund. All property which might be redeemed by the bankrupt, may be redeemed by his assignees for the benefit of the creditors. The assignees not only take all the bankrupt's present property, but also property which may accrue to him previously to his obtaining his certificate; but they have no right to seize the profits of his personal and daily labour, for that would be to deprive him of his means of living. In the meantime, the bankrupt, a furniture broker, was engaged to remove goods, and was employed, for that purpose, vans, packing-cases, and five or six men, it was held that his demand for this employment passed to his assignees, since it did not consist solely of a remuneration of labor.

1. Of the Effect of the Bankruptcy on the Rights of third Parties.—The general rule is, that all the property of a bankrupt vests in his assignees for the benefit of the creditors from the time of the act of bankruptcy; from which it follows that all dispositions made by the bankrupt of his property between that time and the issuing of the flat are void—a doctrine which occasioned much hardship in many instances to persons who had dealt with the bankrupt in ignorance of his having committed an act of bankruptcy, and which has therefore been materially mitigated and qualified by legislative provisions:

1. It is provided that all conveyances by, and all dealings and transactions by and with, the bankrupt, made more than three months before the act of bankruptcy, and all conveyances or other dispositions of the bankrupt’s land or goods earlier than that time, shall be valid, provided the party dealing with the bankrupt had no notice of his prior act of bankruptcy.

2. It is provided that all payments by the bankrupt to any person, in respect of the claim of the banker, and at any time before the issuing of the flat, shall be valid, provided the person so dealing with the bankrupt had not, at the time of such payment, notice of his having committed an act of bankruptcy. This provision protects payments, it will be observed, to persons up to the issuance of the flat, but it only extends to bond fide payments, which are such in the strict sense of the word, and therefore it does not include a loan of a sum of money to the bankrupt on a mortgage mortgagee, so, when the bankrupt, as a result of it, accepts, and afterwards purchases four horses from him, agressing that their price should be set off against the amount of the acceptance, this was held not a protected payment within the meaning of the act. The protection is afforded on condition that the party protected has no notice of an act of bankruptcy at the time of the payment. In order, however, to deprive the party of the benefit of the act, he must have notice strictly of some act of bankruptcy having been committed. Mere knowledge that the bankrupt is in receivership will not draw the act of bankruptcy from the time of the payment, and thus prevent the payment from being protected. In one instance the statute law extends the protection to a party having dealt with the bankrupt with knowledge of his having committed an act of bankruptcy; viz., where the flat of bankruptcy is not sued out within twelve months of the act of bankruptcy.

Where none of the above statutory exceptions and qualifications take effect, the general rule applies, with all its consequences, that the assignees are invested with the property of the bankrupt, by relation, back to the act of bankruptcy. Therefore, if a sheriff, under an execution against the bankrupt, seizes his goods without notice of his having committed an act of bankruptcy, the sheriff is liable to the assignees for the value of those goods, provided the flat issue within two months from the date of the execution. As the sheriff is compelled by law, in such a case, to levy all the goods of the bankrupt under the execution, and as he cannot in general know whether he has committed an act of bankruptcy, the provisions of the law provide that no goods be seized on the sheriff; and a late act therefore has, to a certain extent, protected that officer, by allowing him to apply to the Court at Westminster to call the execution-creditor before him, and then prove to him the bankruptcy, if any, and if there is none, to have the goods returned to the sheriff; and if there is a bankruptcy, and the sheriff has used his best endeavors to have the goods returned, he is not responsible for the goods seized.

And as a party who is sued at law by a bankrupt cannot define himself, by showing that the bankrupt, before the sheriff, has committed an act of bankruptcy, it follows that all payments actually enforced at law by the bankrupt, before the flat, are good payments, since it would be a glaring injustice to allow the assignees to recover them a second time. Not only is all the property to which the bankrupt himself has a right applicable towards the payment of the credits, but there are instances in which effects of other parties in his custody, which could not have been retained by the bankrupt had he not become bankrupt, will rest in his assignees for the principal advantage on this subject, 6 Geo IV. c. 16, s. 72, is levelled at this fraud by allowing the use of other persons' property to be granted with impunity to a failing trader, who is thereby enabled to assume a deceitful appearance of wealth, and obtain factitious credit with the world. Accordingly, if an assignee, by the permission and consent of the bankrupt, shall buy in his possession, order, or disposition, any goods or chattels whereof he was reputed owner, or whereof he had taken on himself the sale or disposition as owner at the time of his bankruptcy, the commissioners may sell the same for the benefit of the creditors. The provision applies only to goods and chattels, such as ships, furniture, utensils in trade, stock, bills of exchange, &c. But interests in property of a real nature are not affected by it. The main difficulty, which has occasioned much litigation as to the cases within this clause, is in deciding whether the bankrupt was or was not the reputed owner of the property at the time of his bankruptcy, which is a question of fact determinable by a court of law.

Where the bankrupt has once been the real owner, but has sold or disposed of the goods, the circumstance of his still remaining in possession of them raises generally a presumption that he possesses them as reputed owner; but where the goods were his only property, or the goods having been real owner, it will require stronger evidence to show his reputed ownership at the time of the bankruptcy. The distinctions upon the subject are some of the neatest which occur in the decisions of the courts. Where the goods were marked with his name, and were left in the vendor's cellar, sealed, it had an entry made in the vendor's books; it was held that these precautions prevented the wines from falling within the operation of the statute, but in other cases, where the goods were unmarked, the goods with his initials, the decision was to the contrary. If a bond is assigned over by the obligee, it must be delivered to the party to whom it is assigned, and notice must be given to the debtor, otherwise it will pass to the assignees of the obligee in case of his bankruptcy, and it is the same as to the assignment of a policy of insurance; and a mere notice in the London Gazette will not be sufficient notice, unless it happens that the debtor has actually received it. Bills drawn by a bankrupt are in effect purchased by him, and they therefore pass with the property to his assignees in the event of his bankruptcy; but bills which are not due, and are paid by a customer to his banker, though indorsed, remain the property of the customer, since the banker is a third person, and only advances the amount when they become due. But it is otherwise if the bills, though not due, are paid in by the customer, and treated as cash. Goods which the bankrupt holds merely as trustee, or as executor or administrator, or as a factor, or which is placed in his hands merely for some particular purpose, will not pass to his assignees as being in his reputed ownership. Goods which a bankrupt receives on the terms of sale or return are held to be in his reputed ownership, and pass to the assignees; but where the bankrupt had in fact never unpacked them, it was held the owner might reclaim them. If a trader have mortgaged his goods, but remain in possession of them, they will pass to the assignees; and this used to be the law with respect to the mortgage of a ship. If the owner continued to freight it, and to act as owner, it passed to his assignees, notwithstanding standing it was absolutely assigned to a mortgagee; but this being found a great grievance, it was remedied by the last Register of Commerce. And if the owner, instead of his ship, the mortgagee may with safety leave him in possession of it, provided the mortgagee duly registers it according to the provisions of the 4 Geo IV. c. 41.

The Certificates and the Bankruptcy.—When the bankrupt has duly submitted himself to examination by the commissioners, and has surrendered up his property and effects, and in other respects conformed to the requisitions of the Bankruptcy Act, he becomes entitled to a certificate signed by the commissioners and ere-
the bankrupt in what manner they have disposed of his real
and personal estate, and to pay the surplus, if any, to him. The
Court of Bankruptcy.—We have before seen that the
Court of Bankruptcy, established by 1 and 2 Will. IV.
c. 56, is composed of three judges, constituting a Court
of Review, and of six commissioners, before whom the
debts of the bankrupt are proved in the same manner, and
also under the same forms. The court consists of a
Chief Judge, with a salary of $1,500 per annum, and
six commissioners, with the salary of $1,000 per annum. It has
prerogatives over all matters of bankruptcy, and has power
to hear and determine all such matters of this description as were formerly
brought before the Lord Chancellor, and to hear all such other matters as are by the act, the rules,
and regulations made in pursuance thereof, specially referred to
this court. The court may order the discharge of a bankrupt, or on
petition, motion, or special case, with an appeal to the
Lord Chancellor in matters of law or equity, or, on the refusal
of admission of evidence, such appeal to be heard by the
Lord Chancellor only, and not by any other judge of the Court
of Bankruptcy. The Court of Bankruptcy is not to be
served by process until after three months from the date of
the order, and is not to be removed to another county before
three months from the date of the order. The costs in the Court
of Bankruptcy are paid by the other party, and are to be
ordered to be taxed by the Master of the Court of Bankruptcy.
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part of the evidence in any case before them, either tried
ove on oath, or on affidavit. On the grating of every flat
the bankrupt is to pay to the like account the sum of £5
out of the first money coming to his hands. The salaries of
the judges are at present £2000 per annum. Each of the Lord Chancellor's Secre-
taries of Bankruptcy is paid in the same manner. The
Deputy Registrars are paid £900; the First Clerk of the Secret-
ary of Bankrupts, £500; the Second Clerk, £300. No judge, com-
missioner, registrar, or deputy-registrar of the court can
practise as a barrister while he holds such office. Any
judge, commissioner, registrar, or deputy-registrar, &c.,
done under the act, fraudulently and wilfully demand or
take any fee or sum of money other than is allowed by law,
shall, on conviction, forfeit £500, and be rendered incapable
of holding any office under his Majesty.
(See Bacon's Abrm. 4th ed. on Bankrupt.)

Bankruptcy Laws of Scotland. In the ear-
liest records of the law of Scotland we find debtors entitled
to a discharge on a judicial cession of their goods to their
creditors, which practice we shall consider in detail under the head of Insolvency,
and only remark here, first, that it is a general remedy, and
not confined to traders or any particular class of men; and
secondly, that it is only an off-shore discharge, &c., which is not of itself extinguish debts
remaining due. In these two respects the law of cession
is obviously distinguished from the law of mercurial seque-
stration, and its parent, the English bankruptcy law.
A bankrupt, as distinguished from an insolvent, is a debtor who has subjected himself to the operation of the
bankruptcy laws. These, in England, are confined to per-
sons in trade; but in Scotland any debtor may become a
bankrupt. The important Scottish bankruptcy acts are 1695,
e. 6, and 1794, c. 13. Whether a bankrupt is to be seque-
strated on an act. By the former of these statutes it is
declared that if any debtor, under diligence by horning and
reaping, be either imprisoned or retire to the abbey or other
privileged place, or flee or abscond for his personal security,
or defend his person by force, and be afterwards found by
sentence of the lords of Session to be insolvent, he shall be
brought and repute on these three grounds, viz., diligence
by horning and reaping, joined with one or
other of the said alternatives of imprisonment, or retiring, or
fleeing, by being in the sanctuary, or by reason of priv-
ilege or personal protection, a charge of horning executed
against him, together with other an execution of arrest-
ment of any of his effects, not lost or discharged within
fifteen days after the date thereof, or an execution of
pounding of any of his moveables, or a decree of judg-
mand of any part of his inheritable estate, for payment or secu-
ity of debt, shall, when joined with insolvency, be held a
buiitual bankruptcy, and shall be sequestrated. The de-
description of notor bankruptcy given in the act 1695, e.
5: and further, every person, whether he bo out of Scot-
land or not, whose estate shall be sequestrated (as after
mentioned), shall in like manner be helden and deemed a
notor bankruptcy, as far as the said and other bankruptcy
is to make void and null all voluntary dispositions,
assigments, or other deeds, granted directly or indirectly
by the bankrupt, either at or after his bankruptcy, or in the
space of ninety days next following the act, for satisfaction of
or further security, in preference to his other
creditors; and generally, all preferences and alienations in
favour of creditors may then be set aside, and the claims of
creditors equally treated.

Where the bankrupt has been concerned in trade, his
property and effects may, by 34 Geo. III. c. 137, s. 15, seq.,
be attached and distributed among his creditors by a pecu-
liar process called Mercantile sequestration; in setting forth
the leading particulars of which, it is not necessary to
be sequestrated: 2. the proceedings to realize and distribute
the bankrupt estate; 3. the personal protection, alinment,
and discharge of the bankrupt; and 4. the jurisdiction of the Cur
sent of Session in bankruptcy.
A bankrupt is a person who is a merchant
or trader in Scotland, in gross or by retail, or a broker,
underwriter, or a manufacturer, &c., and in gen-
eral any person who, by either himself or as agent
or factor for others, seeks his living by buying and selling, or
by the workmanship of goods or commodities, or by any
of the foregoing occupations, or holds a share in any such
undertaking. But it is not a sufficient ground for awarding
sequestration that the debtor is, 1. a holder of stock in any
public or national bank, or of Indian stock, or stock in any of
the banks established by public authority, or in any insurance
company against fire, or in the Forth and Clyde navigation
company, or other inland navigation company, or the British
fisheries, or 2. that he is a common labourer or workman, whether an
wise bond file under one or other of the foregoing
descriptions: nor, 3. can any landholder or tenant of land
be as such sequestrated, even although he deal in cattle
merchandize, unless he be a file of the description of a
trader in these articles, living or absent. The same
lihood, or a material part thereof, by dealing in cattle, &c., the
produce of, nor grazed upon, or made use of in the
labour of his farm, or in grain not produced thereon.
As much as is distinguished from an insolvent, is a debtor who has subjected himself to the operation of the
bankruptcy law. As to his status and condition, it is ordered that the
statute be construed by all judges in the most beneficial
manner for promoting the ends thereby intended, and that
the same shall be held to comprehend unmarred women
and minors coming under the, or any other description
mentioned, and also married women carrying on trade or
merchandise independent of their husbands. The statute
also provides, that the estates of all co-partners carrying
on business under any of the denominations or descriptions
above set forth, and not legally sequestrated, shall also be
sequestrated; but under proviso, that any partner of a
compny whose name does not appear as such in the books of
the company, or who shall not come forward and acknowled
himself or his partner and agree to be examined by the, for
the examination of the bankrupt partners, or any of
them, such person shall not be entitled to any of the benefits
or privileges of the statute, unless he make it appear that
this omission proceeded entirely from innocent mistake
or ignorance, or that such person, for the time being, had
the exception of his liability as a partner, and shall then follow
out all necessary steps, under the direction of the Court of
Session, for remedying as far as possible the loss and incon-
venience thence arising. No sequestration will be awarded
against any one who is not a legal bankrupt, nor against
any one having an estate or effects in Scotland, who at the
time of the application does not reside, or has a
dealing house or house of business there, or at least had
such residence or dwelling-house, or house of business,
within a year previous to the application, unless the debtor
himself or, those legally authorized to act for him, concur
in the application. In other cases, sequestration will be
awarded on the application of the creditors, the debtor in
such cases being always under legal diligence by horning
and caption, and in virtue thereof, either imprisoned or
retired to a sanctuary, or fled or absconded for his personal
safety from such diligence, or defending his person by force,
or, if he be out of Scotland at the time of the application,
be located by him himself or his agents within the
judication of any part of his inheritable estate for payment
or security of debt. Any person also who is within the
statute may, whether diligence has been executed against
him or not, make a joint application with his creditors for
sequestration of his estate and effects. It thus appears, on
the one hand, that the debtor himself in all cases may, and in some cases must, join in the application to obtain sequestration; and, on the other, that the application must always be supported by the creditors, one or more. It remains, therefore, here to notice the debt of the petitioning creditor or creditors to the debtor, either in the sum of £1000, or an amount to 150l. sterling; if there are two, their debts must amount to 150l. sterling; and if three or more, their debts must amount to 200l. sterling: what proportion of the gross amount shall be due to each creditor, shall be determined by the court; and the creditors are at the same time ordered to meet in terms of the statute; and this deliverance the petitioning creditor must forthwith cause to be advertised in the Edinburgh and London Gazette, and the same proceedings shall be null and void. We have said that the intender awarding sequestration appoints also the creditors to meet in terms of the statute: we will now advert to the creditors' right of vote. The debt on which a vote may be cast by any creditor may be for the whole or any part of his debt in bankruptcy, whether it be secured by a mortgage, suspension, or a prescribed debt, or on an unstamped document, or a debt purchased at an undervalue; and a continuing creditor may vote, except in the election of an interim factor, or trustee, or commissioners. As to the amount of the debt, there must be deducted all partial payments, unless challengeable or reducible, all counter claims admitted or instantly verified, and all dividends on bills received from other obligors before entering claim on the sequestration. No creditor is entitled to vote at any meeting who has not then or before exhibited a special oath of verity on his debt, and also the grounds or vouchers of the debt. Where a creditor is out of the United Kingdom, or incapable to give oath, in such cases the affidavit may be administered by the bailiff of the court to which he is committed, and agents or attorneys having commissions, either general or special, from creditors, may appear and vote in all matters wherein their constituents, if present, might have voted. As to number and value, a creditor under 20l. is not reckoned in number, and no creditor holds a preferable security or security on the sequestrated estate, then if the security covers only a part of his debt, he votes one in number, and votes in value for the unsecured balance; but the security is reckoned by its number or value. The first meeting of the creditors after award of sequestration is to choose a factor or interim manager, previous to the appointment of a trustee on the bankrupt estate; but in the mean time, on cause shown by any creditor, the sheriff will direct intenders to be taken of the bankrupt's repositories, books, and effects, and in particular cases it may be prudent to apply to the Court of Session for instant adjudication in favour of the sheriff-clerk of the county. The first meeting of creditors is, as we have said, to be called by the sheriff-clerk of the county. The second step is the appointment of a trustee, or series of trustees, at the meeting for which the bankrupt must exhibit a state of his affairs, also a return of the lands, if any, and an inventory of his books and papers. The appointment of trustees is determined by a majority of the creditors in value, but, as in the appointment of a factor, complaint lies to the Court of Session, from whom, also, on application, the trustees must have act of confirmation and appointment, and the compilation of the accounts, the call for debts, and the like; the creditors may also take into his custody, all books and papers belonging to the bankrupt estate, and take all legal steps to recover the estate. On cause shown, the trustee will be suspended or removed. One main duty incumbent on the trustee is to see to the realization of the bankrupt estate, and other matters concerning the bankrupt affairs. This being done, meetings of the creditors are held to investigate these affairs, give directions to the trustee for recovery and disposal of the bankrupt estate, and they choose the creditors from among themselves to audit the trustee's accounts, to see that communications occur with him in submissives and compromizes, and to give him their advice and assistance in any other matter relating to the management of the bankrupt estate, but subject to the orders of the court. The bankrupt estate is then, if no composition is offered, recovered and disposed of, and the produce divided among the creditors by the sheriff-clerk, according to the statute.

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The bankrupt's personal protection from diligence may be obtained at the first general meeting of the creditors, or at any time between the 6th and the 30th day after the day on which the bankrupt is notified, or on application to the Court of Session by the bankrupt, with concurrence of the interim manager or trustee, and four-fifths of the creditors in number and value. The same proportion of creditors may also, at the meeting after the last day of the bankrupt's examination, or at any time thereafter called for the purpose, authorise the trustee, with the consent of the commissioners, or any two of them, to grant the bankrupt a limited allowance for the support of himself and family till the period assigned for the second discharge. Applications for the allowance are to be made to the Court of Session by the bankrupt, with concurrence of the trustee, and four-fifths of the creditors in number and value, may apply to the Court of Session for a discharge; but the application will only be granted if any of the creditors be refused, or granted under conditions. A discharge, when allowed, frees the debtor from all debts previous to the date of the first delivery of the petition for sequestration, except debts due to the crown. A discharge may also take place on a composition lawfully made, and agree to by nine-tenths of the creditors in number and value, and confirmed by the court, in which case it is accompanied by a discharge of all debts, as at the date of the first delivery, on payment of the composition, and also a reconveyance to him of all the property. After the bankrupt is declared to be insolvent, it is impossible for the creditors to receive anything from him, in respect of his insolvent estate, contrary to the provisions of the composition, the reversion accruing to the bankrupt.

In regard to the jurisdiction of the Court of Session in bankruptcy, it is to that court the application for sequestration, for the appointment of more assignees, and for relief on behalf of the creditors during the course of the proceedings to realize and distribute the bankrupt estate. For applications to sequestrate it is always open, the petition for sequestration being signed for the entire hold of the court, to either division of the court, but also to the lord ordinary on Bills.

The provisions of the Irish Bankruptcy Law are contained in the General Bankrupt Act, 1. c. 8; amended by s. 19 and 20 Geo. Ill. c. 25; and made perpetual by 3 & 4 Will. IV. c. 11.

BANKS, SIR JOSEPH, is said in some of the memoirs which have been written of him, to have been of noble Swedish extraction: one or two of them state that he was born at Revesby Abbey, in Lincolnshire, and most of them, with equal truth, recur in saying that the date of his birth was Dec. 1733.

Sir Joseph's pedigree, entered at the Herald's College, begins with one Simon Banke, who, in the 7th Edward III., married, by the lady of Leckgender, of Newton in Yorkshire. By this marriage, the manor of Newton, in the wapentake of Staincliffe, afterwards called Banke Newton, came into the Banke family, and remained with it till the middle of the seventeenth century. The Banke family were originally from Ireland, the second son of Henry Banks, an eminent attorney at Giggleswick in Yorkshire, at the time of Elizabeth and James I.; who, in right of his wife, became possessed of the manor of Beck Hail in Giggleswick.

Sir Joseph Banks was the eighteen in lineal descent from Simon Banke already mentioned. His great-grandfather, Joseph Banks, was M.P. for Grimsby in the county of Lincoln, and afterwards for the borough of Totness in Devonshire; he died in 1727. His grandfather, of the same name, was a high-sheriff, and his Lincolns in 1724, and for some time the representative in Parliament for Peterborough. His grandfather married Anne, the daughter and heir of William Hodgkinson, Esq., of Overton in the county of Derby, by whose will William (the second but eldest surviving son), the father of Sir Joseph Banks, took the name and arms of Hodgkinson, and enjoyed the Overton estate till he succeeded by inheritance to that of Revesby Abbey, when, under his grandfather Hodgkinson's will, he was removed from the name of Banks to that of Hodgkinson, and the name of Robert Banks Hodgkinson; upon whose death in 1729, without issue, the Overton estate descended to his nephew Sir Joseph Banks. Sir Joseph Banks's father, who, as has been already said, took the name of Hodgkinson, died in 1718, and died in 1761.

Baron Cuvier, in the Essay which he pronounced upon Sir Joseph Banks before the Royal Academy of Sciences at Paris, April 2, 1821, states Sir Joseph to have been born on Dec. 13th, the date in most of the English accounts, but on Feb. 13, 1743, in Argyll Street. The place is correct, but even this date is erroneous. Sir Joseph's baptism followed by the date of his birth, is thus entered in the Register of the Parish Church of St. Margaret, at Earls Court: Feb. 26, 1743. Joseph Banks, son of William, Esq., and Sarah, born on Jan. 4th.

Sir Everard Home, in the Hunterian Oration delivered in the theatre of the University, College of Surgeons, Feb. 14, 1822, informs us that the first part of the year 1743 was under a private tutor; at nine years of age he was sent to Harrow School, and was removed when thirteen to Eton. He is described, in a letter from his tutor, as being well disposed, of a cheerful disposition, and of a ready and pleasant manner of play, that his attention could not be fixed to study. When fourteen, his tutor had, for the first time, the satisfaction of finding him reading during his hours of leisure. This sudden turn he at a later time himself explained to Sir Everard Home. One fine summer evening he had been rowing in the river as usual, with other boys, but having stayed a long time in the water, he found when he came to dress himself that all his companions were gone: he was walking surely along a lane, and the sides of which were richly enameled with flowers; he stopped, and looking round, involuntarily exclaimed, 'How beautiful!' After some reflection, he said to himself, it is surely more natural that I should be taught to know all these productions of nature, and not to be compelled to ask my father's command, and it is my duty to obey him: I will, however, make myself acquainted with all these different plants for my own pleasure and gratification. He began immediately to teach himself botany; and, for that purpose, he went to the botanical garden, where many women employed in culling simples, as it is termed, to supply the druggists and apothecaries' shops, paying sixpence for every material piece of information. While at the garden, he was present for the entire day, and to the evening, to his inexpressible delight, a book in which all the plants he had met with were not only described, but represented by engravings. This, which proved to be Gerard's Herball, although one of the boards was l'd, and several of the leaves torn off, he procured with great difficulty.

He left Eton-school in his eighteenth year, and was entered a gentleman-commoner at Christ Church, in Dec. 1760, just before he was eighteen.

His love of botany, which commenced at school, increased at the University, and there he mind warmly embraced all the other branches of natural history. His ardour for the acquirement of botanical knowledge was so great, that, finding no lectures were given on that subject, he applied to Dr. Stuarts, the botanist and physician, on whose arrival to Oxford, he was received into his house as a proper person, whose remuneration was to fall entirely upon the students who formed his class. This arrangement was acceded to, and a sufficient number of students having set down their names, he went to Cambridge, and brought back to them Mr. East's copy of the Phaenomena, in Latin, with Mr. Banks's interest, the appointment of astronomer to the voyage towards the North Pole, under Captain Phipps, afterwards Lord Mulgrave. Mr. Banks soon made himself known in the University by his superior knowledge in natural history. 'He once told me in conversation,' says Sir Everard Home, 'that when he first went to Oxford, if he happened to come into any party of students in which they were discussing questions respecting Greek authors, some of them would shout out, "Here is Banks, out he knows nothing of Greek." To this rebuke he made no reply, but said to himself, I will very soon excel you all in another kind of knowledge, in my mind of infinitely greater importance; and not long after, when any of them wanted to clear up a point of natural history, they said "We must go to Banks."'

He left Oxford in December, 1763, after having taken an honorary degree. His father had died in 1761, and he accordingly came into possession of a material fortune in January, 1764, when he became of age.

On May 1, 1764, he was chosen into the Royal Society, and in the summer went with his friend Mr. Phipps, lieutenant in the navy, who afterwards made a voyage towards the North Pole, and the young man of twenty-two was collecting plants. He returned to England the following winter by way of Lisbon.

It was after his return that the intimate commenced between him and Dr. Solander, a Swedish gentleman, the pupil of Linnaeus who, visiting London with strong letters

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In case of a country bankruptcy it is thus. —

I hereby authorize A. B., of 1... to prosecute his [complaint against B. C.] of 1... in the Court of Bankruptcy. 1...

BROUGHAM. C.

4. The Peace Act. Having been on the scene in which the trader declared a bankruptcy, and his powers and effects are brought upon the market, 1...
creditors' debts is the next step to be considered. The commissioners, we have seen, are bound to appoint two meetings immediately upon the adjudication of bankruptcy, and at these and every other meeting (with ten days' notice in the London Gazette) appointed for that purpose, the creditors may prove their debts and the debtor be ordered to show cause why he may not make proof by an authorised agent, creditors living at a distance by affidavit, and creditors out of England by affidavit verified by a notary public, minister, or consul; and by a special provision, the person effecting a policy of assurance in respect of the property or funds not himself particularly interested, may make proof in case of loss. All debts legally due from the bankrupt at the time of the act of bankruptcy are provable, and also all debts contracted before the issuing of the fiat, though subsequent to the act of bankruptcy, provided the bankrupt, or person from whom the debt was contracted, had no knowledge of the act of bankruptcy. Obligees on bottomry and respondentia bonds, and the assured in policies of assurance, are entitled to make claim before the commissioners, and when the loss or contingency happens on which the debt depends, they may then prove the debt and receive dividends with the other creditors, notwithstanding the contingency or loss may not arise till after the issuing of the fiat; and all creditors having claims upon the bankrupt under an assurance may, by application to the commissioners, have a value set upon the contingent claim, and be admitted to prove for the debt thus ascertained. In cases where parties have become bail or sureties for the bankrupt, and have paid the debt or a part thereof, the bankrupt, in default of payment in case of the death of the original creditor has proved the debt under the fiat, such sureties are entitled to stand in the place of the creditor as to the dividends and all rights under the commission; or where the creditor has not proved his debt, such sureties have a right to receive funds in respect of the debt which was made, so as not to disturb former dividends of the bankrupt's estate; and this, although such sureties may have become sureties for the bankrupt subsequent to the act of bankruptcy, provided he had no notice thereof when he became such surety. If the bankrupt owes annuity debts, all such creditors may prove for the value of the annuity, which the commissioners are to ascertain, having regard to the original price given, and to the diminution of value from lapse of time between the date of the annuity and the date of the fiat. With respect to interest on debts, the general rule is, that no interest is provable unless interest was reserved by contract, either express, or arising by implication from the usage of trade, unless the contract depends upon the continuance of the debt; where interest is allowed it is calculated to the date of the fiat. By a special provision, bills of exchange and promissory notes are expressly excepted from the general rule, and the holders of those instruments are entitled to prove for the interest on them from the date of the fiat, though interest be not reserved by the instrument.

With respect to proof of debts against the partners in a firm, the general rules are, that as a creditor of the whole firm may, if he please, sue out a separate fiat against any single partner or any number of partners, he may prove his debt in the same manner; 2nd, a joint creditor of the whole firm may prove against the separate estate of any one partner who is bankrupt, provided there is no partner who is solvent; but if there is a partner who is solvent, then the bankrupt is entitled to prove for the whole debt against the separate creditors of the partner who is bankrupt; 3rd, where there are no separate debts, the joint creditors may of course prove against the estate of the partner who is bankrupt. But for the purpose of proving the deposit of the certificate of the bankrupt and of voting for assignees, joint creditors may prove under a separate fiat, and separate creditors under a joint fiat, without regard to the above rules.

If the bankrupt become bankrupt, being indebted to an individual partner, such partner cannot prove against the joint estate in competition with the joint creditors; for as there are his own creditors also, he has no right to withdraw any part of the funds available for the payment of their debts; nor can those partners of a firm who remain solvent prove against the separate estate of a member of that firm in competition with his separate creditors, unless the joint creditors be first paid 20s. in the pound and interest.

There are certain classes of creditors which the legislature has peculiarly privileged. The commissioners are authorised to order that the clerks and servants of the bankrupt (which includes travellers and servants working by the piece) shall receive their wages and salary, for not exceeding six months, out of the estate of the bankrupt; and they have power to order the officer of the bankrupt to pay his expenses. In certain instances the creditor has a remedy for his debt without proof, if the creditor of the bankrupt, at the time of the bankruptcy, owes him money, or if there is mutual credit between the creditor and the bankrupt (as, for instance, on bills or acceptances drawn on him and not paid), the creditor is not bound to pay his debt to the extent and proves his counter-debt and take a dividend only with the general creditors, but one debt must be set off against the other by the commissioners, and the balance only can be allowed; and if granted on condition of the creditor also being benefited of this set-off, the creditor must not have any notice of the bankrupt's act of bankruptcy at the time when he gave him credit.

In certain cases also, where the creditor has obtained a security or lien upon the bankrupt's estate, he is allowed to satisfy himself out of it, instead of being compelled to accept a mere dividend. Thus, if the creditor has obtained judgment against the bankrupt, and actually seized his goods under the order of the creditors, he is entitled to satisfaction out of the goods, notwithstanding the bankrupt has the goods are actually seized before the bankruptcy, the creditor will not obtain this preference, but must rank with the other creditors. And if the creditor's judgment is not obtained by him in the course of the bankruptcy, but by an attorney, he will then not be entitled to the benefit of the goods unless they are actually sold under the execution before the bankruptcy happens. An extent for a debt due to the crown is still more favourably regarded; for as that bankrupt is entitled to receive full satisfaction from the crown (from the date of its issuing), and as the property in the goods does not pass from the bankrupt till the appointment of the assignees, at which time it vests in them, if the crown extent issues before the appointment of the assignees, the whole extent is in the possession of the assignees and the assignees. Other crown process, such as a warrant to levy for land-tax money, obtains a preference for the crown from the time of the seizure, in case the assignees have not been before appointed.

A legal mortgage gives the mortgagee a right to retain the property mortgaged until his debt is satisfied, and the assignees of the bankrupt can only redeem it by paying the principal mortgage money, and all interest up to the date of the redemption, and an equitable mortgage money; and in the event of tide deeds, is in general entitled to the same preference. A bond fide pledge of personal property stands on the same footing as a mortgage of land, and can only be redeemed by the assignees on payment of the sum advanced. In order, however, to give effect to the rights above-mentioned, it is necessary that the creditor should have obtained them either before the act of bankruptcy, or, if obtained subsequently, that they should have been obtained at least two months before the issuing of the fiat, and without knowledge of the prior act of bankruptcy. The situation of the landlord of a bankrupt tenant is peculiar. He has a right to distrain all goods on the premises for his rent, even though the demise itself be not made until after the act of bankruptcy. If he neglects his right of distress he must prove, and for the purpose of proof, he can come out under a separate fiat, and separate creditors under a joint fiat, without regard to the above rules.

5. The Assignees, their Powers and Duties.—The assignees in whose estate the bankrupt is vested is in trust for the creditors, and who are charged with the collecting and distribution of it, are either, first, chosen as such, or, secondly, officiates by order of the commissioners, if they are deemed unfit for the office. The first duty of the assignees is to ascertain the validity of the bankruptcy, for which purpose the petitioning creditor is bound to furnish them with all the information in his power. If they ascertain it to be defective, they apply...
to the Lord Chancellor to supersede it, which is the only mode in which they can dispute the validity of the flat. The assignees are required to keep an account of all receipts and payments on account of the bankrupt, which every creditor may inspect. The commissioners may at all times summon the assignees before them, and require the assignees to produce all books on which the bankruptcy is founded, relating to the bankruptcy; and, on their default without excuse, may cause the assignees to be brought before them, and on their refusing to produce such books, &c., may commit them to prison until they supply the same. The assignee shall retain in his hands, or employ for his benefit, or knowingly permit any co-assignee to retain or employ, any sum to the amount of 100l., or if he neglect to invest any money in Exchequer bills when ordered by the commissioners, shall be liable to a fine of not less than 50l. to be recovered as such money. Assignees resemble trustees in being separately answerable only for what each receives, and they must all join in giving a good discharge for money belonging to the bankrupt's estate. If an assignee himself becomes bankrupt, being indebted to the estate of which he is assignee, and if he obtain his certificate, the certificate will only have the effect of freeing his person from imprisonment; but his future property and effects remain liable for his debts as assignee. The Court of Chancery has exclusive cognizance of all matters relating to the bankruptcy, and will compel the performance of their duties if neglected. One of their duties is to sell the bank- rupt's property, at which sale they cannot sell themselves in general. The purchasers by the order of the Court of Chancery, may take possession of their purchase, and the assignees are at the expense of any legal expenses. The assignees are entitled to be reimbursed all necessary expenses; and if an accountant is indispensable to assist them, they are entitled to employ one. They have the right of nominating the solicitor to the bank- rupt, as well as having a right to the credit of the bankrupt's estate. The Court of Chancery has the right to appoint the assignee to manage the estate, or carry on the trade on behalf of the creditors, or to return them in any other manner. The Court of Review have power to remove any assignee, either on his own application or on that of a creditor.

2. The official assignees are merchants, brokers, or accountants, or persons who are or have been engaged in trade in London or Westminster, not exceeding thirty in number, who are chosen by the Lord Chancellor to act as official assignees in all bankruptcies prosecuted in the Court of Bankruptcy, one of whom acts with the chosen assignees in every such bankruptcy, giving security for his conduct. The personal estate of the bankrupt is reserved to the commissioners, and the personal estate of the bankrupt and his debts are recovered by the official assignee, where not otherwise directed by the Court of Bankruptcy or the commissioners; and all stock, money, and securities of the bankrupt, shall be forthwith transferred and paid by the official assignee to the Bank of England, or to any person appointed by the Court of Chancery, or at the instance of the official assignee, out of the bankrupt's estate. The official assignee in bankruptcy is subject to some order for the keeping an account, or payment, investment, or delivery thereof, as the Lord Chancellor or the Court of Bankruptcy shall direct. Till the choice of the official assignee, the official assignee acts as sole assignee of the bankrupt. He is not to interfere with the chosen assignees as to the appointment or removal of the solicitor, or as to directing the sale of the bankrupt's estate. The Lord Chancellor may supply any vacancy in the before- mentioned number of official assignees, or may create additional places. Bankrupts may, in case of the death of an official assignee appointed in any bankruptcy, appoint another from that number; and the commissioner before whom any trader is adjudged bankrupt, may order or order and write to the official assignee out of the bankrupt's estate.

6. The vesting of the Bankrupt's Estate in the Assignees. - The commissioners formerly executed a deed of assignment to the assignees of all the bankrupt's property; but the Act 1, 2, and 3 Will. IV. c. 74, vests the whole of the bankrupt's real and personal estate and effects, whether in Great Britain, Ireland, or the colonies, becomes absolutely vested in the assignees by virtue of their appointment; and in case of any new assignee being appointed, it vests in him jointly with those before appointed; and in those cases where the deed of conveyance or assignment of the bankrupt's property would require enrollment or registration, a certificate of the appointment of assignees, under the seal of the Court of Bankruptcy, is enrolled or registered, and is evidence of the appointment in all courts or places. By the late Act passed for the ab-}
of the fund. All property which might be redeemed by the bankrupt, may be redeemed by his assignees for the benefit of the creditors. The assignees not only take all the bankrupt's property, but the property in the possession of the assignees, may attach to him previously to its obtaining his discharge; but they have no right to seize the profits of his personal and daily labour, for that would be to deprive him of his means of existence. In a late case, where the bankrupt, a farmer, was allowed to reap and reap a share of the harvest employed, for that purpose, vans, packing-racks, and five or six men, it was held that his demand for this employment passed to his assignees, since it did not consist solely of a remuneration for his personal labour.

2. The bankruptcy vests in the assignees all the property of the bankrupt from the Rights of third Parties. — The general rule is, that all the property of a bankrupt vests in his assignees for the benefit of the creditors from the time of the act of bankruptcy; from which it follows that all dispositions made by the bankrupt of his property between that time and the issuing of the fiat are void—a doctrine which occasioned much hardship in many instances to persons who had dealt with the bankrupt in ignorance of his having committed an act of bankruptcy, and which has therefore been materially mitigated and qualified by legislative provisions:—

1. It is provided that all conveyances by, and all dealings and transactions by and with, the bankrupt, made more than two months before the fiat, and all executions against the bankrupt, are void unless it be shown that the party dealing with the bankrupt had no notice of his prior act of bankruptcy.

2. It is provided that all payments by the bankrupt to any creditor, and all such payments made to any bankrupt, at or before the fiat, are void unless the party paying, or who received the money paid, had no prior notice of the fact of the bankrupt's prior act of bankruptcy. This provision protective of payments, it be observed, applies only to payments within the meaning of the act, and it but it only extends to bond fide payments, which are such in the strict sense of the word, and therefore it does not include a loan of a sum of money to the bankrupt on a mortgage of his property; and so, where a party lent the bankrupt his money, and afterwards purchased four horses from him, agreeing that their price should be set off against the amount of the acceptance, this was held not a protected payment within the meaning of the act. The protection is afforded on condition that the party protected has no notice of an act of bankruptcy at the time of the payment. In order, however, to deprive the party of the benefit of the act, he must have notice strictly of some act of bankruptcy having been committed. Mere knowledge that the bankrupt is in embarrassed circumstances at the time, and therefore not in a position to make good his engagement protected. In one instance the bankrupt law extends the protection to a party having dealt with the bankrupt with knowledge of his having committed an act of bankruptcy: viz., where the fiat of bankruptcy was not served until within twelve months of the act of bankruptcy.

When none of the above statutory exceptions and qualifications take effect, the general rule applies, with all its consequences, that the assignees are invested with the property of the bankrupt, by relation, back to the act of bankruptcy. Therefore, if a sheriff, under an execution against the bankrupt, seizes his goods without notice of his having committed an act of bankruptcy, the sheriff is liable to an action by the assignees to recover their value, provided the fiat was served within twelve months of the date of the execution. As the sheriff is compelled by law, in such a case, to levy all the goods of the bankrupt under the execution, and as he cannot in general know whether he has committed an act of bankruptcy, the sheriff involves some hardship on the sheriff; and a late act therefore has, to a certain extent, protected that officer, by allowing him to apply to the Court at Westminster to call the execution-creditor and the assignees of the bankrupt before them, and to make them, as parties, appear to the Court in order to determine the action between themselves. The doctrine that the fiat, when issued, has relation back to the act of bankruptcy, has no application against the crown; and therefore intermediate seizures by the crown are not good, and if valued as a party, is dealt with by law as a bankruptcy cannot not defend himself, by showing that the bankrupt, before the action, has committed an act of bankruptcy, it follows that all payments actually enforced at law by the bankrupt, before the fiat, are good payments, since it would be a glaring injustice to allow the assignees to recover them a second time.

Not only is all the property to which the bankrupt himself has right to refer the payment of his creditors, but there are instances in which a bankrupt may not recover his custody, which could not have been retained by the bankrupt had he not become bankrupt, will vest in his assignees under the fiat. The principal enactment on this subject, is in 4 Geo. IV. c. 11, sect. 2, to the effect that by allowing the use of other persons' property to be granted with impunity to a failing trader, who is thereby enabled to assume a deceitful appearance of wealth, and obtain fictitious credit with the world. Accordingly, if any bankrupt, by the pernicious and common frauds of the possession, order, or disposition, any goods or chattels whereof he was reputed owner, or whereof he had taken on himself the sale or disposition as owner at the time of his bankruptcy, the commissioners may sell the same for the benefit of the creditors. The provision applies only to goods and chattels, such as ships, furniture, utensils in trade, stock, bills of exchange, &c. But interests in property of a real nature are not affected by it. The main difficulty, is the case which occasioned much litigation as to the cases within this clause, is in deciding whether the bankrupt was or was not the reputed owner of the property at the time of his bankruptcy, which is a question of fact determinable by a jury, according to the circumstances of each particular case. Whose the bankrupt was, or whereof he was reputed owner, the property sold or disposed of the goods, the circumstance of his still remaining in possession of them raises generally a presumption that he possesses them as reputed owner; but where the bankrupt has the possession of the goods without ever having marked the goods with his initials, the decision was to the contrary. If a bond is assigned over by the obligee, it must be delivered to the party to whom it is assigned, and notice must be given to the debtor; otherwise it will pass to the assignee of the obligee in the case of mercantile bankruptcy, and it is the same as to the assignment of a policy of insurance; and a mere notice in the London Gazette will not be sufficient notice, unless it happens that the debtor has actually read it. Bills discounted by a banker are in effect purchased for the balance due on them, and the banker has therefore a lien on the goods of his assignees in the event of his bankruptcy; but bills which are not due, and are paid by a customer to his banker, though indorsed, remain the property of the customer, since the banker is a mere agent for the purpose of receiving the amount when the bills become due. But in execution of bills, though not due, are paid by the customer, and treated as cash. Property which the bankrupt holds merely as trustee, or as executor or administrator, or as a factor, or which is placed in his hands merely for some particular purpose, will not pass to his assignees as being in his reputed ownership. Goods which a bankrupt receives on the terms of sale or return are held to be in his reputed ownership, and to pass to the assignees; but where the bankrupt had received goods from suppliers for their banking business, and in fact never unpacked them, it was held the owner might reclaim them. If a trader have mortgaged his goods, but remain in possession of them, they will pass to the assignees; and this used to be the law with respect to the mortgagee of a bankrupt, but if the assignees have in fact given a mortgage, and to set as owner, it passed to his assignees, not withstanding it was absolutely assigned to a mortgagee; but this being found a great grievance, is remedied by the last Ship Register, if a merchant, and the Mortgage Register, if a banker, the mortgagees may with safety leave him in possession of it, provided the mortgagee duly registers it according to the provisions of the 4 Geo. IV. c. 41.

8. The Certificate and Allowance of the Bankruptcy. — When the bankrupt has disposed of himself to examination by the commissioners, and has surrendered up his property and effects, and in other respects conformed to the requisitions of the Bankrupt Act, he becomes entitled to a certificate signed by the commissioners and cre-

part of the evidence in any case before them, either evi- 
dence or interpretation of the law. On the granting of every flat 
the sum of 10l. is to be paid to the insolvent, or to the United 
Bankruptcy, and the sums received by him shall be 
paid weekly to the Bank of England to the credit of the 
Accountant-General of the Court of Chancery to the 'Se- 
creta of Bankruptcy.' 1. The official assignee of an 
every bankrupt is to pay to the like account the sum of 20l. 
out of the first money coming to his hands. The salaries 
of the judges are above stated: those of the commissioners 
are 1500l. per annum; each of the Lord Chancellor's Secre- 
taries, 600l. per annum; of the Solicitors, Deputy- 
Registrar, 600l.; the First Clerk of the Secretary 
Bankruptcy, 500l.; the Second Clerk, 500l. No judge, 
commissioner, registrar, or deputy-registrar of the court 
can practise as a barrister while he holds such office. Any 
judge, commissioner, registrar, or deputy-registrar of the 
court can be placed in a situation which entires to him, 
without any other qualification, than his holding the office 
done under the act, fraudulently and wilfully demand or 
take any fee or sum of money other than is allowed by law, 
shall, on conviction, forfeit 500l., and be rendered incapable 
of holding any office under his Majesty. (See Bankruptcy, 
it. 'Bankrupt.' 7th edit. of Deacon. 5 Baker on Bankruptcy: Eden on Bankruptcy.)

BANKRUPT LAW'S OF SCOTLAND. In the ear- 
liest records of the law of Scotland we find debtors entitled to 
the protection of the common law, or the sheriff, in the presence 
of their creditors. This proceeding, which still subsists in Scotland, 
we shall consider in detail under the head of INSOLVENCY; 
and only remark here, first, that it is a general remedy, and 
it is confined to debtors or any particular class of men; and 
secondly, that it dissolves the person's estate, and the 
discharge under it does not of itself extinguish debts 
remaining due. In these two respects the law of cession is 
obviously distinguished from the law of mercantile sequestration, 
and its parent, the English bankrupt law.

The last and broadest description of an insolvent, is a 
developer who has subjected himself to the operation of the bankrupt laws. These, in England, are confined to 
persons in trade; but in Scotland any debtor may become a bankrupt. The important Scottish bankrupt acts are 
1696, c. 54, 3 Geo. I., and 25 Geo. III., c. 24, which 
constitute a particular sequestration act. By the former of these statutes it is 
declared, that if any debtor, under diligence by horning and 
caution, be either imprisoned or retire to the abbey or other 
privileged place, or reside or abscond for his personal security, 
or bind his person force, and be afterwards found by 
sentence of the lords of Session to be insolvent, he shall be 
broken and repented on these three grounds, viz., diligence 
by horning and caution and solvency, joined with one or 
other of the aforesaid acts, or of imprisonment for his 
personal security, or of binding his person force, and be 
convicted of these three acts, the common law, or the sequestration act. By the latter of these statutes it is 
declared, that if any person, by the power of the lords of 
Session, be imprisoned for the solvency of part of that 
part of the lord, or not liable to be 
prisoned by being in the sanctuary, or by reason of privilege 
or personal protection, a charge of horning executed 
against him, together with either an execution of arrest 
ment of any of his effects, not bound or discharged within 
forty days after the date thereof, or an execution of 
pounding of any of his moveables, or a decree of adjudica- 
tion of any part of his heritable estate, for payment or secur- 
ity of debt, shall, when joined with insolvency, be held a 
sufficient solvency, and shall be entitled to the description of notor bankruptcy given in the act 1696, c. 5 
and further, every person, whether he be out of Scot- 
land or not, whose estate shall be sequestrated (as after 
mentioned) be bound and released as notor bankrupt. The effect and operation of such bank- 
rupcty is to make void and null all voluntary dispositions 
asignations, or other deeds, granted directly or indirectly 
by the bankrupt, either at or after his bankruptcy, or in the 
acceptance of the favour of his creditors in respect of 
satisfaction or further security, in preference to his other 
creditors; and generally, all preferences and dissolutions in 
credit of creditors may then be set aside, and the claims 
of creditors equated with the insolvent.

Where the bankrupt has been concerned in trade, his 
property and effects may, by 34 Geo. III., c. 137, s. 15, 
be attached and distributed among his creditors by a pecu- 
liar process called Mercantile sequestration; in settling forth 
the leading particulars of which the persons who shall be sequestrated: 2. the proceedings to realize and distribute 
the bankrupt estate; 3. the personal protection, alment, 
and discharge of the bankrupt; and 4. the jurisdiction of 
the Court of Session in such cases.

Any person may be sequestrated who is a merchant or 
trader in Scotland, in gross or by retail, or a banker, broker, 
or underwriter, or a manufacturer, or artificer, and in gen- 
eral any person who, either by himself or as agent or 
factor for others, seeks his living by business from 
the workmanship of goods or commodities, or by any 
of the foregoing occupations, or holds a share in any such 
undertaking. But it is not a sufficient ground for awarding 
any of the following consequences, that the debtor is, 1. a holder of stock in any of the public or national funds, 
or of India stock, or of stock in any of the banks established by public authority 
or in any insurance company against fire, or in the Forth 
and Clyde navigation company, or other inland navigation 
company. 2. A bank director, or a subscriber to any pledge, 
or a labourer or workman for hire, unless such person is other- 
wise bond fide under one or other of the foregoing 
descriptions; nor 3. can any landholder or tenant of land 
be as such sequestrated, even although he deal in cattle 
or sheep, or of farm, unless his income in these respects 
be derived from the occupation of agriculture; and 4. 
that trader in these articles, gaining or seeking to gain his 
livelihood, or a material part thereof, by dealing in cattle, 
not the produce of, nor grazed upon, or made use of in the 
labour of his farm, or in grain not produced thereon.

The bankrupt laws of Scotland are so ample and so much as to the trade or occupations 
and business. As to his status and condition, it is ordered that the statute be construed by all judges in the most beneficial 
way for the promotion of the ends thereby intended, and 
that the same shall be held to comprehend unmarried women 
who have not married, and also women who have been 
mentioned, and also married women engaging in trade or 
merchandise independent of their husbands. The statute 
also provides, that the estates of all co-partnerships carrying 
business under any of the denominations or descriptions 
above set forth, and not within the exceptions, may be 
sequestrated; but under proviso, that any partner of a 
company whose name does not appear as such in the books 
of the company, or who shall not come forward and acknow- 
ledge himself to be such, shall not be liable 
for the examination of the bankrupt partners, or any of 
them, such person shall not be entitled to any of the benefits 
or privileges of the statute, unless he can make it appear 
that the omission proceeded entirely from innocent mistake 
or neglect, and not with the intention of defrauding the 
conception of his liability as a partner, and shall then follow 
out all necessary steps, under the direction of the Court of 
Session, for remedying as far as possible the loss and incon- 
venience thence arising. No sequestration will be awarded 
against any one who is not a legal bankrupt, nor against 
any one having an estate or effects in Scotland, who at the 
time of the application does not either reside, or has a 
dwelling house or house of business there, or at least has 
such residence or dwelling-house, or house of business, 
within a year previous to the application, unless the debtor 
himself, or those legally authorized to act for him, concur 
in the application. In other cases, sequestration will be 
awarded on the application of the creditors, the act then 
being that on caution being given by horning 
and caution, and in virtue thereof, either imprisoned or 
retired to a sanctuary, or fled or absconded for his 
personal safety from such diligence, or defending his person by force; 
or, if he be out of Scotland at the time, to be 
absconded by reason of privilege or personal protection, his 
being under diligence by charge of horning, attended with 
arrrestment executed of any part of his moveables, and not 
loosed or discharged within fifteen days thereafter, or with 
the payment of the sum of 10l., and in any case of adjudication of any part of his heritable estate for payment 
or security of debt. Any person also who is within the 
statute may, whether diligence has been executed against 
him or not, make a joint application with his creditors for 
sequestration of his estate and effects. It thus appears, on
the one hand, that the debtor himself in all cases may, and
in some cases must, join in the application to obtain sequestra-
tion; and, on the other, that the application must always be
supported by the creditors, one or more. It remains,
therefore, here to notice the debt of the petitioning creditor or
creditor, or creditors, the number of which shall amount to
100£ sterling: if there are two, their debts must
amount to 150£ sterling: and if three or more, their debts
must amount to 200£ sterling: what proportion of the
gross amount shall be due to each creditor, is not
concerned in the petition, and therefore not material.
In estimating the amount due, all partial payments made
by the debtor must be of course deducted. The debt or debts
may be either liquidated by formal vouchers, or stand upon
estimates of the creditor, which may be confirmed by the
court, for the benefit of all his creditors, and the cre-
ditors are at the same time ordered to meet in terms of the
statute; and this deliverance the petitioning creditor must
forthwith cause to be advertised in the Edinburgh and Lea-
sdon Gazette; and the debts shall be for the time being
null and void. We have said that the inter-
curator awarding sequestration appoints also the creditors
to meet in terms of the statute: we will now advert to the
creditors’ right of vote. The debt on which a vote may be
given by each creditor may be in the form of a debt
suspension, or a prescribed debt, or an unstamped doc-
ument, or a debt purchased at an under value; and a con-
tingent creditor may vote, except in the election of an
uncreditor, the trust, the sheriff, or the receiver. So
that a part of the debt, there must be deducted all partial payments,
unless challengable or reducible, all counter claims admit-
ted or instantly verified, and all dividends on bills received
from other obligates before entering claim on the sequestra-
tion. No creditor is entitled to vote at the first or any
meeting who has not then or before exhibited a special state
of verity on his debt, and also the grounds or vouchers of
the debt. Where a creditor is out of the United Kingdom,
or incapable to give oath, in such cases the affidavit may
be subscribed by any of his agents, or by one of the sheriffs
and agents or attorneys having commissions, either general
or special, from creditors, may appear and vote in all mat-
ters wherein their constituents, if present, might have voted.
The number of votes used at a sequestration meeting
must not exceed 20; nothing less, a creditor under 20 is not recog-
nized in number, but only in a half of a vote. A person who
holds a preferable security on the sequestrated estate, then,
if the security covers only a part of his debt, he votes one as
number, and votes in value for the unsecured balance, but
if the security covers the whole debt, he has a vote equal to
the number or value. The first meeting of the creditors
after the award of sequestration is to choose a factor or inter-
manger, previous to the appointment of a trustee on the bank-
rupt estate; but in the mean time, on cause shown by any
 creditor, the sheriff will direct interim custody to be taken
of the bankrupt’s repositories, books, and effects, and in
particular cases it may be prudent to apply to the Court of
Session for an instant adjudication in favour of the sheriff-
clerk of the county. The first meeting of creditors is,
as we have said, to choose, to examine, and to
firm manager on the bankrupt estate. The powers of
such person, when chosen, are very large, in order to
execute his office, which is, however, chiefly to
preserve the estate, and to choose the committee of
person interested may apply to the Court of Session for
an account of his conduct and intimations, and on cause shown
by one-fourth of the creditors in value he will be re-
moved. If no factor be chosen, or if his election is annulled
the term expires, the sheriff will appoint a factor or
clerk. The next ordinary step is the appointment of a
trustee, or series of trustees, at the meeting for which the
bankrupt must exhibit a state of his affairs, also a rental
of the lands, if any, and an inventory of his books and
papers. The appointment of trustee is determined by a map cut
the creditors in value, but, as in the appointment of a factor,
complaint lies to the Court of Session, from whom, also, an
application, the trustee must act of confirmation and
administration of the estate, and in which the
trustee takes into his custody, all books and papers belonging to the
bankrupt estate, and take all legal steps to recover the
estate. On cause shown, the trustees will be suspended or
removed. One main duty incumbent on the trustee is to
protect the estate and to dispose of the bankrupt affairs. Thus
being done, meetings of the creditors are held to investigate these
affairs, give directions to the trustees for recovery and disposal of the
bankrupt estate, to examine the accounts of the creditors, and to
decide on any other matter respecting the management of the
bankrupt estate, but subject to the control of the sheriffs of the
place. The bankrupt estate is then, if no compositions is offered, re-
covered and disposed of, and the produce divided among the
creditors by dividends, according to the statute
The bankrupt's personal protection from diligence may be obtained at the first general meeting of the creditors, or at any time between that and the period assigned for the first dividend, on application to the Court of Session by the bankrupt, with the consent of the managers and trustees, and four-fifths of the creditors in number and value. The same proportion of creditors may also, at the meeting after the last diet of the bankrupt's examination, or at any subsequent meeting called for that purpose, authorise the trustee, with consent of the committee of management, to assign any two of the trustees to grant the bankrupt a limited allowance for the support of himself and family until the period assigned for the second dividend. After the period assigned for the second dividend, the creditors, by a majority of the creditors in number and value, may apply to the Court of Session for a discharge; but the application will, on cause shown by any of the creditors, be refused, or granted under conditions. A discharge, when allowed, frees the debtor from all debts previous to the date of the first deliverance on the petition for sequestration, except debts due to the crown. A discharge may also take place on a composition lawfully made, and agreed to by nine-tenths of the creditors in number and value, and confirmed by the court, in which case it is accompanied by a discharge of all debts, at the date of the first deliverance, on payment of the composition, and also a reconveyance to him of all the sequestrated estate to be administered and realised for payment of the composition, the reversion accruing to the bankrupt.

In regard to the jurisdiction of the Court of Session in bankruptcy, it is that court the application for sequestration must be made, and appeal lies in all questions among them. The proceedings employ the course of law to be pursued, and are delivered to the lord ordinary on Bills. The provisions of the Insolvency Act are contained in the General Bankrupt Act, 5 & 6 Geo. III. c. 8; amended by 1 & 6 Geo. III. c. 25; and made perpetual by 5 & 6 Geo. III. c. 34.

Sir Joseph, in some of the memoirs which have been written of him, to have been of noble Swedish extraction; one or two of them state that he was born at Ravensby Abbey, in Lincolnshire, and most of them, with equal error, concur in saying that the date of his birth was Dec. 13th, 1743.

Sir Joseph's pedigree, entered at the Herald's College, begins with one Simon Banke, who, in the 7th Edward III., married the daughter and heiress of Arthur, of Newton in Yorkshire. By this marriage, the family of Banke acquired the manor of Totness in Devonshire; he died in 1277. His grandfather, of the same name, was chief-justice of Lincolnshire in 1376, and fathered a son who, after the death of Sir Simon, called Banke Newton, came into the Banke family, and remained with it till the middle of the seventeenth century. The first who took the name of Banke was Robert, the second son of Henry Banke, an eminent attorney at Giggleswick, near York, the deceased, and a founder of the School at Giggleswick, who, in right of his wife, became possessed of the manor of Beck Hall in Giggleswick.

Sir Joseph Banke was the eighteenth in lineal descent from Simon Banke already mentioned. His great-grandfather, Joseph Banke, was M.P. first for Grimsby in the county of Lincoln, and afterwards for the borough of Totness in Devonshire; he died in 1727. His grandfather, of the same name, was high-sheriff of Lincolnshire in 1736, and fathered this rebuke to what is called Banke Newton, who died in 1749. His grandfather married Anne, the daughter and heiress of William Hodgkinson, Esq., of Overton in the county of Derby, by whose will William (the second but eldest surviving son), the father of Sir Joseph Banke, took the name of Hodgkinson, and enjoyed the Overton estate until he succeeded by inheritance to that of Ravensby Abbey, when, under his grandfather's will, he resigned it to his younger brother, who immediately took the name of Hodgkinson, in order to avoid the death in 1798, without issue, the Overton estate descended to his nephew Sir Joseph Banke. Sir Joseph Banke's father, who, as has already been said, took the name of Hodgkinson, was born in 1719, and died in 1761. His marriage being decided upon, he married upon Sir Joseph Banke before the Royal Academy of Sciences at Paris. April 2, 1751, states Sir Joseph to have been born, not on Dec. 13th, the date in most of the English account, but on Feb. 13, 1743, in Argyle Street. The place is correct, but even this date is erroneous. Sir Joseph's baptism followed by the date of his birth, is thus entered in the parish register of St. James, Westminster: 'Feb. 26. 1743;Joseph Banks, son of William, Esq., and Sarah, born on Jan. 4th.'

Sir Everard Home, in the Hunterian Oration delivered in the theatre of the College of Surgeons, Feb. 14, 1822, informs us that the first part of young Banks's education was spent under a preceptor of the name of Bunting, and that at the age he went to Harrow School, and was removed there to Eton. He is described, in a letter from his tutor, as being well-disposed and good-tempered, but so moderately fond of play, that his attention could not be fixed to study. When taken, his tutor found, for the first time, the pleasure of finding him reading during his hours of leisure. This sudden turn he at a later time himself explained to Sir Everard Home. One fine summer evening he had bathed in the river as common as other boys, but having stayed a long time in the water, he found when he came to dress himself that all his companions were gone: he was walking leisurely along a lane, the sides of which were richly enameled with flowers; he stopped, and looking round, involuntarily exclaimed, 'How beautiful!' After some reflection, he said to himself, it is surely more natural that I should be taught to know all these productions of Nature, in preference to Greek and Latin; but the latter is my father's command, and it is my duty to obey him: I, however, mean to teach myself to distinguish different plants for my own pleasure and gratification. He began immediately to teach himself botany; and, for want of more able tutors, submitted to be instructed by the Apothecary's Shop, which was termed, to supply the druggists and apothecaries' shops, as a sledge provides room and shelter for every material piece of information. While at home for the ensuing holidays, he found in his mother's dressing-room, to his inexpressible delight, a book in which all the plants he had met with were not only named, but presented by engravings. This, which proved to be Gerard's Herbal, although one of the boards was lost, and several of the leaves torn out, he carried with him to school.

He left Eton-school in his eighteenth year, and was entered a gentleman-commoner at Christ Church in Dec. 1760, just before he was eighteen.

The love of botany, which commenced at school, increased at the University, and there his mind warmly embraced all the other branches of natural history. His ardour for the acquirement of botanical knowledge was so great, that, finding no lectures were given on that subject, he applied to Dr. Sub-thorpe, the botanical professor, for permission to procure a proper person, whose remuneration was to fail entirely upon this class. He accordingly acceded to, and a sufficient number of students having set down their names, he went to Cambridge, and brought back with him Mr. Israel Lyon, a botanist and astronomer. This gentleman, many years after, procured, through Mr. Banks's interest and influence, the appointment of himself to the post of chaplain to the North Pole, under Captain Phipps, afterwards Lord Mulgrave. Mr. Banks soon made himself known in the University by his superior knowledge in natural history. 'He once told me in conversation,' says Sir Everard Home, 'that when he first went to Oxford, if he happened to come into any party of students in which they were discussing questions respecting Greek authors, some of them would call out, "Here is Banks, out he knows nothing of Greek."'

But Joseph Banks was not to be deterred, says Mr. Home, very soon excel you all in another kind of knowledge, in my mind of infinitely greater importance; and not long after, when any of them wanted to clear up a point of natural history, they said: "We must consult Banks.""

He left Oxford in December, 1763, after having taken an honorary degree. His father had died in 1761, and he accordingly came into possession of his paternal fortune in January, 1764, when he became of age.

He went up to London from Oxford in April, joined the Royal Society, and in the summer went to Newfoundland with his friend Mr. Phipps, lieutenant in the navy, who afterwards made the voyage towards the North Pole. The object of this voyage was collecting plants. He returned to England the following winter by way of Lisbon.

It was after his return that the intimacy commenced between him and Dr. Solander, a Swedish gentleman, the pupil of Linnaeus who, visiting London with strong letters
of recommendation, had been recently appointed an assistant librarian of the British Museum. The voyage, for which he was engaged by Mr. Banks, was a voyage of discovery and exploration, with the objective of collecting botanical specimens and other scientific data. The expedition was led by Captain Cook, and Mr. Banks was engaged to provide assistance and support.

The voyage was a success, and the specimens collected were later used in the development of the Botanical Society of London. Mr. Banks's role was crucial in the success of the voyage, and his contributions were highly valued.

Mr. Banks's contributions to science were recognized, and he was awarded the Royal Society's Medal for his services. His work laid the foundation for future explorations and expeditions, and his legacy continues to inspire scientists and explorers to this day.
he gave up all idea of leaving his country, and began to prepare for publication the rich store of botanical materials which he had collected.

In March, 1779, Mr. Banks married Dorothy, eldest daughter of William Western Huggen, Esq. of Provender, in the parish of Norton in Kent; and in 1781 was created a baronet. In 1782 he was elected a fellow-labourer Dr. Solander, who died of an apoplectic fit. This loss was severe blow; and, in consequence of it, he gave up all intention of proceeding with his botanical work, or of writing anything further than a few short memoirs, published either in a letter form, or as communications to the transactions of societies.

For the first three or four years of Sir Joseph Banks's Presidency of the Royal Society all went on harmoniously; but, notwithstanding the zeal and assiduity with which he devoted himself to the duties of his office, discontent began to rise against him, even amongst the most eminent members of the Society. A variety of complaints, the fruit of misunderstanding and prejudice, were industriously circularemost members

At length the mutual discontents between the President and a number of the members of the Society broke out. In the course of the proceedings, Dr. Hutton was reduced to the necessity of resigning the office of Foreign Secretary, on the ground that he had been accused of neglecting its duties. He, however, explained and defended his conduct, and a vote of the Society fully approved of his defence. The history of this discussion is contained in the tracts which were published upon it at the time, more particularly in the Observations and Reflections on the Conduct of the President of the Royal Society, by Andrew Kippis, D.D. F.R.S. and S.A. 1784.

The whole collection, with some additional papers, exists in one volume in Sir Joseph Banks's library in the British Museum.

On the evening of the 8th of January, 1784, a resolution, "that this Society do approve of Sir Joseph Banks for their President, and will support him," was moved in a very full meeting of the Society by Sir Joseph's friends. It was adopted with applause; and a resolution was moved by Dr. Horsey, afterwards Bishop of St. Asaph, who, having been interrupted in a speech of considerable force and argument, and being further irritated by a suggestion from Lord Mulgrave, arose and spoke with great eloquence, intimating a movement for the President's removal. He then called on Sir Joseph Banks, they might probably secede, and form a rival society. "Sir," said Dr. Horsey in conclusion, "when the hour of success does come, the President will be left with his train of feeble amateurs, and that boy (pointing to the mace) upon the table—the ghost of that Society in which Philosophy once reigned, and Newton presided as her minister." The motion made in favour of Sir Joseph Banks was, however, carried by a great majority, and the division soon after subsiding, the Society retired to their newspapers.

On the 1st of July, 1793, Sir Joseph Banks was invested with the order of the Bath, and on the 29th of March, 1797, sworn of his Majesty's Privy Council. In 1802, he was chosen President of the National Institute of France. In replying to the letter which announced this last honour, he expressed his gratitude in terms which gave occasion to many members of the Royal Society; and it also exposed him to a virulent attack from an anonymous enemy, who published the letter in his Appendix to the Englishman's Cabinet, with a most acrimonious letter to the author. This enemy was afterwards acknowledged to be Bishop Horsey, who was apparently less prompted by a reasonable and patriotic jealousy, than by ancient pique, and a bitter detestation even of the science of revolutionary France.

Towards the close of life, Sir Joseph Banks, who in youth had possessed a robust constitution, was grievously afflicted by gout, so much so as in a great measure to lose all power over his lower extremities. He endured the sufferings of disease with patience and cheerfulness, and died at his house at Spring Grove, June 19, 1820, leaving no family to mourn him: he was buried at Newton, Middlesex. His only sister, Mrs. Sophia Sarah Banks, had died in 1819. Lady Banks survived him for a few years.

All the voyages of discovery which were made under the auspices of government for the last thirty years of Sir Joseph Banks's life had either been suggested by him, or had received his approbation and support. The establishment of the Horticultural Society owed its origin to him; and Lady Banks, Lucas, Houghton, and the unfortunate Mungo Park, all partook of the care which he extended to the entering into wholecomers. He was among the first to import fruit from the West Indies for cultivation from Oulate, and from Bengal. He transferred the fruits of Persia and Ceylon, also, successfully, to the West Indies and to Europe. The establishment of our colony at Botany Bay originated entirely with him. In the affair of the Bank of Trade, of the Board of Agriculture, and of the Mint, he was constantly consulted, and he took a leading part in the management of the Royal Gardens at Kew. He was a distinguished promoter also of the Agricultural Society founded in 1804. His influence was frequently directed to soften to men of science the inconvenient of the long war which followed the French Revolution; to alleviate their sufferings in captivity; or to procure the restoration of their papers and their collections which were in the hands of the enemy. Baron Cuvier, in his Etudes sur Joseph Banks, mentions that, no less than ten times, collections addressed to the Jardin du Roi at Paris, and captured by the English, were restored, by his intercession, to their original destination. His purser was always an agriculturist, and his library of science, and his library of natural history always accessible to those who desired to consult it. His conversations a Sunday evening, during the sittings of the Royal Society, was attended by the most distinguished in literature and science, whatever was their rank, or their age, and during the two and forty years in which he continued President of the Royal Society, he was indefatigable as an official trustee in the management of the British Museum; and in the same capacity he was indefatigable in his gifts, he made a constant bequest of his scientific library, together with his foreign correspondence, where both are now deposited.

Sir Joseph Banks published two single tracts: 1. A Short Account of the Cause of the Disease in Corn, called, by the Timbers, the Bight, or the Midge, or the Bug; which was several times reprinted; in 1806, with additions, again, with marginal annotations by an Agriculturist (Sir Thomas Hamner, Bart) in 1807; and in 1814. 2. Observations on a third of the Spanish Shepherds, etc. Lond. 1806. This part has been originally communicated to the Board of Agriculture. It was likewise inserted in vol. xiii. of the Letters and Papers of the Bath Society, published in 1810. In the Communicated Tracts to the Board of Agriculture, vol. i. p. 197, will be found his "Account of Experiments in Cultivating the Apple brought by Sir John Murray from India; and in vol. v. p. 181, his "Observations on Sawh Milk."

Among his manuscripts, and that portion of his library (not scientific) which was removed after his death to Lincoln's-Inn, are a number of very copious manuscript notes; and a copy of Tussor's Five Hundred Points of Husbandry, prepared by himself for a new edition.

A catalogue of Sir Joseph Banks's library, compiled by Mr. Dyer, and annexed to the list of Linneus's pupils, who succeeded Dr. Solander as his librarian, was published in 1806, entitled Catalogus Bibliothecae Historico-Naturalis Josephi Banks, auctore Jonna Dyerandi, A.M., Regio Societatis Bibliothecario, in five volumes 8vo. A limited number only was printed; and a copy of the whole work now comes on the market.

(See Eloge Historique de M. Banks tiré de l'Acad. Royale des Sciences, le 2 Avril, 1821, 4to.; Biographie Universelle, tom. iv. Suppl. p. 101; Sir Edward Hob's Historien Oration, Feb. 14, 1829; Gent. Mag. 1826, vol. li. pp. 353, 637; p. ii. pp. 86-88; New Monthly Mag. vol. xiv. 1829, pp. 183-194; Lodge's Portraits of Illustrious Persons; Tilloch's Philosoph. Mag. vol. xiv. 1820, pp. 49-46; but nothing has been drawn from the undeserved Review of some leading points in the official character and proceedings of the late President of the Royal Society, in the same volume, pp. 161-174, 241-257. To the official authorities original information has been added.)

The best likeness of Sir Joseph Banks (1743-1820) is the picture of him in the hall of the British Museum, by Francis Chantrey, Esq.

BANKS, THOMAS, one of the first sculptors of Great Britain, was born on the 22d of December, 1735, at Lambeth on Thames side. His father was land-steward to the Duke of Buckingham, and although Thomas was not the eldest son, he was the most celebrated of the family. He supported his family in a style of high respectability, and to give his three sons a liberal education. That classical taste which Banks's works exhibit was imbied with his early studies; and at the time when he had arrived the age at which a son of his rank might be considered as enjoying such a degree of patronage, that a parent might, without incurring the charge of impropriety, permit his son to devote himself to them as a profession. Reynolds and Romney had established a system of exquisite taste and practice of the art, which he had inherited from his barbarous state of declension. Roublillic and Wilton exercised their talents in sculpture with distinguished success; and Kent made all the arts tributary to his fortune, under the titles of painter, sculptor, architect, and landscape gardener. Young Banks was placed under Kent as a pupil. The profession for which his father designed him was exclusively that of an architect, but his mind had already taken its unnatural bent; sculpture was his vocation, and no traces are left of his exposure to Renaissance studies. He was at an early age connected with that art are introduced in his bas-reliefs, they are marked with scientific precision. How long he continued with Kent we do not know. It is said that at one time he worked there, but his profession probably consisted in a carving in wood, which is not improbable, that art was then in great request, and, in the hands of a skilful practitioner, a means both of reputation and profit.

In 1768 the Royal Academy was established. Banks, who was then in his thirty-third year, and whose style was already formed, had little to learn from such an institution; nevertheless he became a candidate for its honours, and in 1770 was the successful competitor for the gold prize among many rivals. He exhibited, in the same year, two distinct designs of Rossing Ecclesiæ from the flames of Troy, and the fertility of his invention was evident in his different modes of treating the same story. His reputation was greatly increased, in the ensuing year, by a group of Mercury, Argus, and Io; and his talent had now made such an impression, that it was determined to add him to the members of the Royal Academy to send him to Rome at the expense of that institution.

The time as assigned by the Academy to its foreign students for the execution of the apotheosis, of about 500 livres per annum. Banks fortunately was placed, by his father's liberality and his wife's portion, above an entire dependence on the academic stipend. He gave up his small gallery and studio to his younger brother Charles, who had embraced the same profession, and was soon after joined by his wife, and returned to Rome in August, 1775. At that time, Gavin Hamilton, a Scotch painter, and a gentleman by birth, was considered to be the head of art in Rome. Judging by his principal work, a series of designs from the Iliad, he must have been chiefly indebted for this high distinction to the mode-
in restoring the statue; and this fine performance, in which pathetic expression is united with heroic beauty, was duly appreciated by the public. Mr. Johnes of Hafod desired to have it executed in marble, and a block was purchased for that purpose, but the patron reconsidered the matter, and determined to have, in its stead, a group of Thetis dipping the infant Achilles. So far the sculptor concurred, but while he was teasting his imagination to furnish a fine ideal head, and had made his utmost exertions to attain the desired effect, he became convinced that the eyes were unnecessary, and that the face of Mrs. Johnes was to supply his model. Her female infant, also, was to furnish the head of Achilles. As Johnes was a man of talent, this preposterous folly excited the more surprise. Banks, however, was really so pleased with this first sketch of his famous statue, and, in spite of its individuality, the work was a beautiful one. Banks, during his after life, was a frequent visitor at Hafod in the summer months, but his practice of sketching and designing was never intermitted, and it was during one of those excursions that he made his beautiful composition of Thetis and her nymphs consoling Achilles.

It is an oval in alto-relievo: the goddess and her nymphs ascend from the sea like a mist; nor has the buoyant and elastic elegance of those figures been excelled in any work either of ancient or modern art. Casts of this fine performance are to be seen in the study of almost every artist. Banks was elected a member of the Royal Academy about this time, and presented to that institution a figure of a fine giant, which is now in their council room. This work is exquisite in its manual execution, and displays great accuracy in anatomical detail, but the acute angle formed by the body and lower limbs impresses the impression of grandeur. His next work was a monument to the daughter of Sir Brooke Bootham, beautiful though destitute, who died in her sixth year. In this monument, now in Ashbourne church, Derbyshire, she is represented sleeping on her bed, and the figures convey all the touching interest excited by the sight of infant loneliness doomed to early death. The monument to Woolston, executed soon after, was an invariable subject, the difficulties of which the sculptor has not surmounted so successfully; but the composition of Shakspeare attended by Poetry and Painting gave a better ascent to his genius. This work was executed for Alderman Boydell, one of the British Institution, and is now in the Shakspeare Gallery. The subject did not admit of much variety of expression, but in arrangement and character it is elegant and appropriate.

An incident occurred about this time which is somewhat singular in the life of the artist. Banks, having modelled a bust of Horne Tooke, had formed an intimacy with that gentleman, and made him frequent visits at his house at Wimbledon; when Tooke was arrested on a charge of treasonable opinion, Banks also, because implicated, was summoned to an official examination by the Secretary of State. A very slight explanation was sufficient to exculpate him; nevertheless, such was the ferment of political opinion at that period, and so strong the prejudice of the public, that Banks was not without some fear ofill, even by the bare suspicion which had attached to him.

The last public work on which Banks was engaged were the monuments of Sir Eyre Coote in Westminster Abbey, and those of Captains Westcott and Burgess in St. Paul's Cathedral. The former was executed for the East India Company; the latter by order of the Committee of Taste for his Majesty's government. Banks was great in subjects purely ideal, but he failed when he attempted to apply the principles proper to that class of art to the plain realities of life. Most of his works of that latter description are of the Greek artists, he has represented the two captains naked, or nearly so, an absurdity not less offensive to popular feeling, than fallacious as referring to the examples of answering art. The Greek sculptors certainly represented those bodies endowed with a natural suppleness — Heracles, Theseus, Achilles, and others, of a fabulous cast; but there is no evidence that they exhibited their distinguished contemporaries in the same manner: on the contrary, most of their works that latter description are chiefly valuable for the fine and appropriate cast of draperies. In public monuments, of whatever magnitude, common-place propriety should form a large ingredient; and it was by the tact with which he combined those qualities that Banks, the contemporary of Banks, succeeded in bearing away the general suffrage, however inferior to his rival in lofty imagination and general power of intellect. It should

be added, that the allegorical figures in those monuments, and a Mahattas captive in that of Sir Eyre Coote's, are finely conceived, and in every way worthy of the sculptor's reputation.

With the monument of Captain Westcott, which was finished in 1805, Banks terminated his career; he died on the 2nd of February, 1805, in his seventeenth year, and was buried in Paddington churchyard. A plain tablet was erected to his memory in Westminster Abbey, with this inscription: — In memory of Thomas Banks, Esq., R.A., sculptor, whose superior abilities in the profession added a lustre to the arts of his country, and whose character as a man reflected honour on human nature. This epitaph may be reckoned among the few which are entitled to the praise of truth: it would be difficult to find an individual in whom there was more to admire and less to condemn.

Banksia, an Australian genus of plants belonging to the natural order Proteaceae, of very remarkable habits, and forming a striking appearance in the places where it grows. It was named in compliment to Sir Joseph Banks. It consists of bushes, or less frequently, of small trees, with their branches growing in an unembellished manner. The leaves are hard and dry, and, in young specimens undivided, always cut at the edges, but in old specimens divided. They have a dull green colour on their upper side, and are usually white, or very pale green, on the lower. The flowers are long, narrow, tubular, coloured calyces; without corolla, and

[Bankside.]

The plant in the foreground is the Red Banksia of King George's Sound, and the other the Yellow Banksia of Carpentaria; from sketches made on the spot by W. Westall, Esq.
has been adopted by all modern nations to denote the sun which carries it to be a national vexilloid, or man-of-war's flag. Streamer is a poetic word, and is used for any species of floating banners.

Ensign is a word formed on the idea of the banner displaying insignia which belong to a particular person, or a collection of persons. It is, however, used when we mean any colours; and the officer called an ensign was originally the ensign-bearer. It is also applied to the national ensign worn by vessels over their stern.

Pennon, another name of waving pendant.

Bunt, or a waving flag in the ensign-bearer's quartermaster, where the draperies were square.

Guidon is now used for the little banner of a regiment.

Confumion is properly appropriate to the banner of the pope or of the church.

On all these, however, the word banner is used by most writers and speakers as a synonym, or as a generic term, of which the other words indicate particular species. We shall therefore bring together in this article much of the information we have collected, and shall, without the attention has hitherto been paid, but which is connected with all our chivalry and much of our poetry, and is without its share of historical importance and national interest.

The military standards of the Romans were commonly borne at the end of a staff, or pole (German: Stab), and were used for a signal in warfare. They were crests, in metal or wood; the eagle, or some other figure, elevated at the end of a tall staff or pole. The forms of them are known to us by the representations of them on medals, and the common cognizes of that family. The Romans had also the word for ensigns (Isid. l. 10) was a golden or gilted eagle, raised on a staff or pole. We have few such representations of the military ensigns of other nations of antiquity, and nothing, it seems, which can authorize us to suppose that banners, as the sense of which the term has been here defined, were in any among them.

But we find them in use among the modern nations of Europe from a very early period. The first notice of them in English affairs is the Bede, who states that in Augustine's mission and his followers were with Ethelbert, king of Kent, says that they approached the king bearing banners on which were displayed silver crosses, and the picture of Jesus Christ, and champing, as they must along, prayers for his election and that of the nation. They were then living in the Isle of Thanet; and when the king had assigned them habitations in Canterbury, they entered the city in procession, carrying their little banners, chanting salutations, and praying for the blessing of God and the salvation of their country.

Thus early were banners used in religious affairs, to the pomp and splendour of which they have lent life to and later times, as in Catholic countries they still continue to do.

All the monasteries in England had banners as their wardrobes, to be produced on the great anniversaries, or on the anniversary of the particular saint in whose honour the church was founded. These were suspended as we shall see, allowed to be carried out of the monastery, and displayed in the field. At Ronan, for instance, there was the banner of St. Wilfred; at Beverley, the banner of St. John of that town. Both these were displayed in the field at Northallerton in the reign of Stephen. We find, says King Edward II. paying sij. a day to one of the processions of the college of Beverley for carrying the man of the banner of St. John, and 1d. a day while taking it back to the monastery.

Sometimes the banners of the religious order only were displayed as a personal banner; or some religious, others they held in especial honour, but some rule of the unit composed a part of the banner. This was the case with the banner of St. Cuthbert at Durham. Of the banner there is a particular and authentic description in a very curious little tract of the Ritae et Monumentis of the Monastic and Cathedral Church of Durham 1672, which we shall here transcribe:—The process carried a gaily and sumptuous banner to be made, with paper or cover to be put on a staff, being five yards long, with a dres to take off and on the papal papal colors, and to keep in the chest in the sacristy, when they were taken down, which banner was swayed and carried in the said abbey on feast and principal days. On the height of the even banner was a fair pretty cross of silver, and a hand of salis, having
a fine wrought knot of silver at either end, that went under
neath the banner-cloth, whereunto the banner-cloth was fas
tioned and tied; which wand was of the thickness of a
man's finger, and at either end of the said wand there was a
fine silver bell. The wand was fastened by the middle to
the banner-staff hard under the cross. The banner-cloth
was a yard broad and five quarters deep; and the nether
part of it was painted five pence and frieze, and made
fast all about with red silk and gold; and also, the said
banner-cloth was made of red velvet, on both sides most
sumptuously embroidered and wrought with flowers of green
silk and gold; and in the midst of the said banner-cloth was
placed, in the midst thereof, a small, round, flat, oval, and
magnum cope or cloth with which St. Cuthbert in his lifetime
had been used to cover the chalice when he said mass enclosed
and placed therein: which coporax cloth was covered over
with scarlet silk and gold cloth and in the middle of these
thereby, in that way, having a red cross of red velvet on both sides over the same, a
robe, most artfully and cunningly compiled and framed,
being finely fringed about the skirts and edges with fringe of
red silk and gold, and three little fine silver bells fastened
at the sides of the said banner-cloth, like unto searing bells;
and being so sumptuously finished and absolutely perfected,
was dedicated to holy St. Cuthbert, to the intent and purpose
that the same should be presented and carried always after
to any battle, as occasion should serve; and which was never
collected and removed the saint with battle, hence, it is our
God Almighty, and the mediation of holy St. Cuthbert, it
brought home the victory."—pp. 42 44. This banner was
made in the year 1346, but there had been a banner of St.
Cuthbert before; for in the wardrobe accounts of King
Edward I., his predecessor, there is mention of a banner of
Graham de Greatham, a monk of Durham, for his expenses in
carrying it from the 3rd of July to the 24th of August, and for
placing it in the church of Durham. The fame of the
banner of St. Cuthbert in securing the victory was so great,
that when Edward I., the patron of England in the
war, and who has left a metrical account of the insurrection in
the reign of Henry VIII., called the Pilgrimage of Grace,
spoke of various religious works or relics to which particular
veneration was ascribed, he says of St. Cuthbert's banner
that it "caused the foes to flee." When the Earl of Pembro
manded an expedition into Scotland early in the reign of
Henry VIII., he stopped at Durham, and when he had at
attended mass he agreed with the prior for St. Cuthbert's
banner. This mention is by Hall the chronicler; Skeleton
the post also alludes to the fact, and names also the banner
of St. William, another northern saint, as being carried in
the same army.

This banner of St. Cuthbert, after the Reformation, fell
into the hands of Lord Cranmer, who gave it to his parson
William Cranmer, one of the zealots of the Reformation. His wife, who
was a French woman, is reported to have burnt it. (Rites
and Monuments, &c. p. 44.)

It is not our intention to introduce in this article much
related to the house of England. There was a banner, called
the Banner of England, that was carried into Scotland in
the war of the Roses, and which was placed in the windows.
Thus, Edward IV. had a banner with the white rose of the House of York. Henry VII.,
after the battle of Bosworth, offered in the church of Saint
Paul, at London, three banners, one of Saint George, one
which had a dun cow for its device, and the third exhibiting
a red fiery dragon, an ensign which had reference to his
descent from the princes of Wales.

In thus carrying their own personal banners into the
field, the king was imitated by the earls and other persons
in the English army. In the feudal times, the armies were composed for the most part
of bodies of men brought up by the great tenants-in-chief of the
Crown, and led by that chief himself who was bound to
personal service, as well as to furnish a certain quota of
men. [See Army.] The persons brought banners of their
own, on which were depicted the heraldic insignia of
their houses. This was no doubt an affair gratifying to the
passion for distinction; but it was a matter of prejudice, if
of necessity, also. It was more than at present, a necessary art,—a dumb language.
When the figure was so completely ossed in steel, and the
face covered by the face-plate, there was scarcely the possi-
bility of distinguishing one knight from another of the
same height and form. Moreover, the armor itself, which was
especially founded in honour of Edmund, king and saint.

The device upon the banner of St. Edward the Confessor
was, no doubt, the cross and martlets as they appear carved
in stone in the abbey of Westminster, where he is buried.
Henry V. had also with him a banner of the Trinity, and
another of the Virgin.

We probably should not err widely if we were to assert of
the banners in the middle ages, that they formed a link be-
tween the military and the ecclesiastics, between the affairs
of war and the sentiments and feelings of religion. Their
influence would be felt in many occasions, but more par-
ticularly when Christians were engaged in war with the
Saracens and other enemies of the faith. It was then the
cross or the crescent. We may trace, even to these
times, a connexion between military affairs and the religious
关税。这些旗帜不仅有宗教意义，也体现了当时的社会和军事联系。
themselves were painted on the shields, embroidered on the surcoats, or displayed upon the banners. The young Earl of Gloucester, grandson of King Edward I, was slain in Scotland by persons who would hardly have saved his life had they known who he was; but as the chronicle which relates the fact observes, he had not his armorial insignia with him.

The consequence of all this was, that besides the national banner, the banner of the King, and the banners brought by men of religion, there were in the English army, in the times of chivalry, a great number of lesser banners by which particular portions of the army were distinguished, and which it was easy to show, as we should now say, the position of the field of battle to which each banner was allotted. This must have added greatly to the picturesque appearance of an army, which has not escaped painters and poets. References to this custom are numerous in the writers who in any way touch upon the military transactions of the middle ages. When, in the reign of King Richard II, there was a question in the Court of Chivalry contested very tenaciously and at immense expense, between Sir Richard Scrope and Sir Robert Grosvenor, respecting the right to the heraldic figure of a golden bend upon an azur field, the deposition in which suit have lately been published from the original roll in the Tower, the evidence on both sides consisted very much of the testimony of persons who said that they had seen the ancestors of one or other of the claimants or parties to have borne the blue banners the figure in question, or had heard of it from their fathers. In the present day there is reference to the practice, when a family asserts a right to coat-armour, inde- pendent of any banner in heraldic parlance of English law. The plea is, that an ancestor bore it in a field of war, which is held to be a good and sufficient plea; and it only remains to prove a male descent from such ancestor. But the most complete exhibition of this interesting custom of our ancestors is presented in a French poem of the reign of King Edward I, relating to the siege of the Castle of Carlavon in the wars of that prince. Besides the particulars of the siege, there is given a catalogue of the chiefs who were present, which may rival in extent and minuteness the chronology of the Holy War, and the author touches slightly on the character of each; but he gives in good technical terms a description of the heraldic device which each displayed on his banner. A short extract will show the way in which he proceeds:

'He had for a companion a jolly and smart bachelor, well versed in love and arms, named John Painig, who bore on a green banner a maunch painted, of fine gold.

The good Edmund Deincourt not being able to attend him, and finding he had none of the arms of arms billetted of gold and surcharged with a dancette.

'John le Fuzi Marmaduc, esteemed by princes and dukes, and all other persons acquainted with him: on his banner was the resemblance of a fess and three popinjays, distinguishing him.

And Maurice de Herleke, who was present at this expedition, had a banner red as blood, with crosslets and a white chevron, with a label of azur, because his father was living.

But Alexander de Bullcld, ever attentive to do good, had a white banner and shield, with a red shield voped.'

Thus the poet and herald goes through the entire host, presenting us with a view, nearly complete, of the whole rabble of England as it stood in the reign of King Edward I.

When the English army ceased to be made up of contributions from the feudal tenants, the private banner would disappear, and only the national, the regal, or the religious banners remain. But in the array of the Parliament the private banner again made its appearance. Sometimes it was decorated, as in earlier periods, with the armorial insignia of the captain who displayed it. But in general the device took more of the character of the impress which the regal banners bore, with all their legs upon the shield, on which some moral sentiment was sought to be expressed. Thus Captain Thomas Saint Nicholas, of Kent, had a scroll on which was written, Dabul victoriae Sancti. On another banner, on which was wrought the figure of an armed knight on a banner, with the words, Nay! but as a Captain of the Lord of Hosts am I come.' A contemporary has left an account of these banners. It is a curious picture of the spirit of the times.

It is printed in the work known by the title of Sir John Preston's 'Res Publica.'

Banners with inscriptions, or intelligible devices, afforded no ready means of differentiation or any sort of subdivision among the multitude, that they have been used in all popular insurrections. The five wounds, the crucifix, and other devices of the same class, were exhibited on banners in the insurrections in favour of the Old Religion. And in lamentations for treasons in the middle ages, there was a sort of verse which does not enumerate among the sort of acts, that the partys had marched with banners displayed.

The early sovereigns of England are represented on their banners, the most authentic representations which we have of them, as knights on horseback bearing little banners; but it appears, by the illuminations of early manuscripts, that distinguished persons were attended by one who carried his banner; and this was, no doubt, from the beginning the usual practice. In later times it was certainly the practice of King Edward III to carry two hundred marks annual fee to Sir Guy de Bryan, as a reward for having borne his banner discreetly at the siege of Calais. Lord Boteler, of Sudeley, in the reign of Henry VI, had a grant of one hundred pounds annual fee, as due to his office of bannerree. This was probably the same office with that which was called the Standard-Bearer of England, which was held in the reign of King Henry VIII by Sir Anthony Boteler, of the right of the master and master of the house. Inferior persons who were allowed to bear a banner in the field also had their banners bearers.

The standard which was in use in the 11th and 12th centuries was too large to be worked by any one head of a family, and the French adopted the term of banner for it. We shall describe it thus:—The drapery floated from near the top of a mast or tall tree, which was fixed in a scaffold resting on a spar drawn by oxen. The oxen were covered with housings of skin, adorned with devizes and cyphers of the reigning prince. In the field of war the tree a present celebrated mass every day; while ten knaves, attended by as many trumpets, kept watch upon the scaffold night and day. Such an incantation machine was in use in the English armies; and at the battle in the reign of Stephen, it was before the banner of the King; and at the battle of Evesham, the pole was the mast of a vessel, and it was decorated with various religious symbols, and with two banners of Saint Peter, Saint John of Beverley, and Saint Wilfrid.

The chief use of the standard and of other banners as military affairs must in all times have been to serve as rallying point to soldiers of whatever class who composed the army. But they constituted, in the middle ages, an essential part of the national banners which were borne from a besieged fortress was as much a sign that a parole was desired in the reign of King Edward I, as now. When a fortress was taken, the banners of England were placed in some conspicuous part of it. Vessels at sea displayed them, as now, as national banners and the royal banners of King Edward I, and afterwards the Banner of the King, and sometimes the banner of its commander. A herald, when sent on an embassy, carried a banner of the prince whom he served; and the drapery of a trumpet was in early times, as now, the pennon of a banner.

In all pageants, banners added the splendour of the scene: at tournaments, at coronations, or funerals, banners were exhibited in great profusion.

Corporations also had their banners, and the several trading companies, who all keep their own banners, are noted in the <i>Corpus Christi</i> Day, the battle of the town del stand at the toehold, and did call all the occupations that were inhabiting within the town, every occupation in its degree, to come forth with their banners, with all their legs arrayed to their several banners, and to repair to the Abbey church door. Every banner del stand arow in its degree from the Abbey church door to Windasbell gate; on the west side of the way del all the banners stand, and on the east side of the way the del for the first morning use banners, p. 162. The further use of them on that day is described by Naegorius:

In the islands, the bannieres shew their men de sade.

When the drapery of the banner was allowed to fall as
in the field; or, in other words, a knight whose quota of men to be furnished to the king's army for the lands he held by his fee of knighthood. The number of men to which constituted of itself a body of men sufficient to have their own leader. In England it is believed there were few tenants bringing any considerable number of men who were not of the rank of the baron. It is well known that the

BANNOCKBURN, a village in the parish of St. Ninian's, county of Stirling, about three miles S.S.E. of Stirling, and on both sides, but principally on the east side, of a small rivulet of the same name, which runs into the Forth below Stirling. The village was formerly extremely thronged and industrious in Scotland. The inhabitants are chiefly engaged in the manufacture of tartan cloths, carpets, and other woollen articles. Bannockburn also manufactures a considerable quantity of leather. It has two annual fairs, which are well attended by the population of the surrounding district.

It was here that the great battle, so well known both in Scotch and English history, was fought on Monday the 24th of July, 1314, between Edward II. and King Robert Bruce, by which the independence of Scotland was established. Bruce learned that the English king had reached Berwick with an army of more than 100,000 men, accompanied by a vast train of war wagons, loaded with victual, and aware that his intention was to advance immediately to relieve Stirling Castle (which, after a gallant resistance by the English, in whose possession it had been for a considerable period, was, by a treaty with the governor, promised to surrender) on the day of the battle (the 24th), he determined to intercept him on his march, and give him battle. With this view, he selected a field near Stirling, which was then called New Park. His army did not amount to 40,000 men. Most of the cavalry he determined to fight on foot, and by strengthening his position to obviate the disadvantage. His right wing rested on the rivulet called Bannockburn, whose steep and wooded banks afforded him excellent security against being outflanked. His front was directed to the village of St. Ninians, and his left wing, which was unprotected by the nature of the ground, was exposed to the garrison of Stirling in the rear; but the terms of the treaty with the governor, and the number of knights present, excluded all attack from that quarter. In order to weaken the force of the English cavalry, he caused pits to be dug, in which were inserted sharpened points, stakes covered over with turf and rushes. On the 23rd, which was Sunday, intelligence reached Bruce of the near approach of the English army, and he then addressed his men, requesting all who were afraid or unwilling to fight to retire, but he was answered with loud acclamations expressive of their determination to abide the coming contest. The English army was the larger of the two; the rear of the army, guarded by the cutters, waggon-boys, and other followers of the camp, having the hill, still known by the name of Gilles, or Gillies, between. Previously to the approach of the main body of the Scottish cavalry had been sent forward with the view of endeavouring to throw themselves into Stirling Castle, and take the Scotch in the rear. Bruce detected this manoeuvre, and detached a body of 500 infantry to defeat it. A desperate conflict ensued; the English cavalry being formed into a square, sustained the onslaught of the cavalry with cool determination. In the meantime, the vanguard of the English army arrived; and Sir Henry Bohun, or Boone, re-organizing Bruce among a body of his nobles, espoused beyond his companions the chivalry of the king, boldly advanced, and parrying the thrust of the knight's saber, left his helmet, and cut his head in two. The English, on seeing this specimen of personal prowess, and hearing the shouts of the assembled number which had treated; and a few hours afterwards, the army which had reached the castle were foiled in all their efforts, and repulsed with considerable slaughter.

At the dawn of the following day, the whole English army advanced to meet the Scotch in battle. The Earl of Gloucester, the nephew of the king of England, mounted on a spirited horse which he had received as a present from his uncle, rushed impetuously forward to rally a portion of the troops which were beginning to get into confusion; but he was unhorsed, and fell covered
with wounds. The English cavalry being now in complete
disorder, were totally routed by Sir James Graham, who
commanded the very small portion of Scottish horse which
were of service. At this critical moment, the cutters, wag-
gon-boys, and others who had been left with the baggage,
led by curiosity, appeared on the top of Gillespie Hill, to see
the battle. The English imagined them to be another Scotch
army, and Bruce perceiving at once the panic and its cause,
pursued more furiously on his opponents, who now gave way in
every direction. Edward fled with 500 horse. He was
chased by a knight of Douglas, who was eager to make him a
prisoner. In the pursuit, Douglas fell in with an English knight
and 20 horsemen, who instantly changed sides, and instead of
following their master joined in the pursuit. The panic must
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force fly before so small a body. The English king pro-
bably believed that the whole Scotch army was close behind.
At Lintitigrow, where Edward halted for a short space,
Douglas did not venture to attack him; but when they
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Castle, a distance of more than sixty miles from the field of
battle. From Dunbar Edward proceeded by sea to Berwick.
On the day after the battle, Stirling Castle surrendered,
and many of the English who were killed or wounded were
made prisoners. The conduct of Bruce, in dis-
missing several prisoners of rank without ransom, and in
paying respect to the remains of such noblemen as fell in
the battle, has been highly commended, especially when
considering the treatment which his brother, Edward Bruce,
subsequently experienced.

The numbers which fell on both sides in this great battle
are variously estimated. Some of the Scotch historians
computed the loss of the English at 85,000. This, however,
incorrectly relates the number of the English who were
killed or wounded, and makes no allowance for those who
were captured or made prisoners. The superior numbers of the
English gives the numbers who fell on their side at 184 lords and
knights, 700 gentlemen, and 10,000 common soldiers. The
Scots admit that the English lost 40,000.

This great battle not only secured the independence of
Scotland, but established the family of Bruce on its throne.
Availing himself of the advantages which so glorious and
decisive a victory gave him, he marched directly into England,
and plundered, without resistance, the northern counties.
He besieged the town of Carlisle, and took Berwick, though
then a place of great strength, by assault. In exchange for
some of his noble prisoners, he received his wife, his
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Bannockburn is also celebrated in Scottish history as the
place at which James III. was defeated, in an engagement
with his rebellious subjects. In attempting to escape after
his troops had been vanquished, the unfortunate king fell
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carried to a neighbouring mill, where he was soon after
assassinated by a priest, whom he had sent for to receive
his confession, and afford him spiritual consolation.

The population of the village of Bannockburn is returned
with that of the parish which included it in 1852. The place
is 29 miles W.N.W. from Edinburgh.

IIIume's History of England; Henry's History of Great
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BANQUETTE, whether single or double, in fortifica-
tion, is a kind of step made in the rampart of a work near
the parapet, for troops to stand upon in order to fire over
the parapet. It is generally three feet high when double,
and about three feet broad; and four feet and a half lower than the parapet.

BANTAM, one of the nineteen districts or regencies into
which the island of Java has been divided by the
Dutch, is situated close to the western coast of the island;
its area is about 700 square miles, and it is separated from the south-eastern extremity of Sumatra by the Straits of Sunda. The district is bounded
on three sides by the sea, and on the east is bounded by the
district of Batavia.

The Portuguese, when they first visited Java, in 1511,
said to have found the kingdom of Bantam under Hindu
government; but at the time Batavian, in 1620, Bantam was under the sway of a
Mohammedan sultan, and so continued until 1613, when
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For the observation of this settlement. It is doubtless owing to this circumstance that the district has since been constant improving. The cultivators being sure of enjoying a certain portion of their produce, their industry has been marked by the same spirit of frugality that has been thorough and permanent. The new population, by this means, in conjunction with the constantly-increasing population, the land revenue of the district, which in 1818 was 121,750 guineas (11,070l. sterling), was in 1860, 7,761 guineas (1,360l. sterling), and has since been still further augmented.

The cultivation of rice forms the principal occupation of the district. Next in importance to this is the breeding and rearing of cattle. The buffaloes of Bantam are of great size and strength, and are kept for purposes of agriculture as well as for food. Large flocks of goats are likewise reared in the district, and find a ready market at Batavia, where the Malay inhabitants prefer their flesh to that of sheep.

Coconuts are a fruit of great value, and are made in this district, which is in much request among the natives of the island generally, and form an important object of inland commerce. Great numbers of cane and bamboo mats are likewise made and exported to different places in the eastern archipelago and to Europe.

The coasts and their neighbourhood are, for the most part, level; but inland the country is mountainous, and everywhere exhibits marks of fertility, the mountains being covered with the finest verdure to their summits. The district of Bantam yields a rich produce of coffee, and is also famous for its spices, especially peppers, which have a great demand in Europe. In Bantam, and in all the adjacent districts, the pepper trade is very important. The pepper is mostly sent to Europe, and a considerable quantity is exported to the East Indies. The pepper trade is very important to the district, and is regulated by the government.

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BANXRING, the Sumatran name of a small arboreal animal, discovered by the late Sir Stamford Raffles, which in its immediate nature and habits between the shrubs and squirrels. [See Tupaia.]

BANYAN TREE. [See Ficus.]

BANYUWANGI, or BANJUANGU, one of the modern townships into which the island of Java has been divided by its Dutch possessors, is situated at the eastern extremity of the island, part of its coast forming the western shore of the Straits of Bali. The district lies between the parallels of 6° 5' and 9° 40' S. lat., and 111° 15' E. long., and is about 1100 miles English E.S.E. from Batavia. The town is populous, and is a military station, the residence of a Governor, and is surrounded by a wide belt of temples, palaces, and the houses of the nobility. The town is of great importance, as it is the chief railway station on the line between Java and Sumatra, and is a great mart of trade. It is also the seat of a bishop of the Roman Catholic Church.

BAPAUME, in Picardy, a town of the department of Somme, on the river Aisne, about 9 m. N.W. of Amiens, and about 6 m. from the coast. It is a town of some importance, and is situated on the canal from Amiens to Abbeville. It has a good harbour, and is a market town. It is the seat of a bishop of the Roman Catholic Church, and is the centre of a considerable trade in coal and timber. The town is also the seat of a college of arts, and is noted for its fine climate. It has a population of about 10,000.

BAPTISM, the English form of the Greek word bapteismo, 'to dip,' was inserted into the New Testament by one of the earliest Church fathers, and is one of the two sacraments of the English Reformed Church.

BAYOBAR. [See ADAMASIA.]

BAIHE, a town in China, in the province of Kiangsu, on the river Matz, about 90 m. N.W. of Shanghai.

BAJOC, or BAJO, a town in Brazil, in the state of Minas Gerais, on the river Bajoc, about 150 m. N.W. of Belo Horizonte. It is a town of some importance, and is noted for its fine climate. It has a population of about 20,000.

BALI, a town in the island of Java, in the province of Central Java, on the coast, about 90 m. N.W. of Surabaya. It is a town of some importance, and is noted for its fine climate. It has a population of about 10,000.

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BAMUTI, a town in the island of Zanzibar, in the province of Zanzibar, on the coast, about 90 m. N.W. of Dar es Salaam. It is a town of some importance, and is noted for its fine climate. It has a population of about 10,000.

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BANANAS, in the West Indies, a town in the island of Martinique, on the coast, about 90 m. N.W. of Port-Au-Prince. It is a town of some importance, and is noted for its fine climate. It has a population of about 10,000.

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Son of God, in whom he was well pleased. John also bore his testimony that Jesus was the Messiah. Jesus, under the name of John, was the most prominent of all the apostles; and it is certain that the name of John is mentioned in the New Testament as the name of the first Christian convert. It is remarkable that he did not himself baptize. But while he was himself employed in diffusing that new and sacred truth which he came to communicate, and in the performance of those miracles by which his claim to be a divine teacher was established, he delegated the baptism of his most eminent disciples did baptize, and many flocked to their baptism. (John iv. 1, 2.) This was done under the eye and with the concurrence of their master, but after his resurrection he gave a more direct sanction to the practice, and it was then recognized as the rite signifying the transition from the old to the new dispensation, and to his religion, saying to his apostles—Go ye therefore and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost, teaching them to observe all things whatsoever I have commanded you. (Matt. xxviii. 19.)

The apostles acted according to this injunction. The language of Peter on the day of Pentecost to the Jews at Jerusalem was this: Repent and be baptized every one of you in the name of Jesus Christ for the remission of sins, when they that gladly received his word were baptized, into the name of the Father, and of the Son, and of the Holy Ghost. (Acts ii. 38.) In the eighth chapter of the Acts we have an account of two remarkable baptisms by Philip; and in the same book there are so many accounts of the baptisms of Christians that there was a profession made of belief in Christ, and there are at the same time so many allusions to the practice in the apostolic epistles, that there is no room for doubt that it was regarded as of the highest importance in the first three centuries of the Christian Church. The meaning of Christian baptism differed little, if at all, from the baptism of John. It implied repentance, and faith in Christ.

The washing was no empty symbol of this change. When Peter applied the principle of the Christian Church, and in the presence of a Christian assembly, it was an outward and visible sign that the convert took upon himself the profession of Christianity. It was an intelligible act, about which there could afterwards be no dispute. The convert might lapse; but if he had once been baptized, there was once a time when he had professed himself a Christian, and when he had given a solemn pledge that he put away his Heathen or Jewish opinions and practices, and accepted the principles of the Christian Church. On the other hand, the performance of the rite by an apostle, or by a person commissioned by the apostles, or by any other person who was himself a Christian, and who professed that he was performing the rite as a Christian ordinance, and in ordinary circumstances of life, was an assurance to the person baptized that he was received into the Christian Church, that he was henceforth to be acknowledged by the whole Christian community as one of themselves, and was entitled to all the blessings and advantages which attend those who are disciples of Jesus Christ. Our parish registers are not of births but of baptisms, and they are the authoritative records of the admission, by this rite, of persons into the Christian Church.

Different opinions are entertained of the amount of the advantages which ensue on the performance of this rite. Some regard it as not of itself bringing with it any advantages, but as merely initiatory, and consider that the advantages of a profession of Christianity spring from other sources and circumstances of the profession itself. It may therefore be, as in itself, an actual washing away of all former sins, and, in the case of infants, of their participation in the guilt of Adam; and under this impression, we find that, in the early ages of the Church, there were those who deferred submitting to the rite until they were of age. Other persons, on the other hand, have regarded it as an act of entire renovation, as a spiritual toilet, a renewal of life, which may be ascribed to the whole person. Others have taken their stand on the declaration of the apostle (Acts ii. 38), that those who were baptized should receive the gift of the Holy Ghost by the laying on of hands, and that therefore the ordinance seems better adapted to the case of persons who have attained to those years in which it may be expected that there is some acquaintance with the evidence by which the divine commission of our Saviour is proved, some knowledge of the Christian nature and aims of life, and some acquaintance with the advantages which attend the true believers in Christ. On the other hand, it is alleged that there is nothing in the New Testament which relates to the baptism of the offspring of Christians. But the promise contained in the baptism of all converted persons, leaving us without an authoritative direction in the case; that it was natural for the first converts, who were Jews, to infer an analogy between this rite and the initial rite of Judaism, which, by the divine command, was to be performed in infancy, and which brought the person who received it within the scope of the promises to
Abraham and his seed, as baptism did within the scope of the ordinance to believers in Christ; that we read in the scriptures of whole households being baptized at once; that infant-baptism certainly did prevail in the church at a very early period; that it has been received by the authorities in the Roman Church; and in the Church of England; and that in recent cases, and that lastly, among those who attribute a saving efficacy in any form to the ordinance, it is to be supposed that a parent would think himself criminal if he neglected to obtain this blessing for his child at the earliest possible moment; and, in fact, the testimony of those who have studied the matter intently, that there is a propriety in Christian parents presenting their offspring newly-born in a Christian temple, and pledging themselves to a Christian minister, and in the presence of a Christian congregation, that they will bring them up in knowledge and fear of God through faith in Jesus Christ.

The Quakers and some other Christians contend against the perpetuity of the ordinance. They say that it was intended only for the apostolic age, or, at most, only for persons of mature age who have been converted from heresies or Judaism. Against this opinion there is the constant practice of the church. We find at the very close of the Scriptural history the apostles and other Christians proceeding with it; and very bethought of the ordnance of the church which is to be collected from writers whose works are not in the New Testament, we find the ordinance in use among believers. The inference drawn from this is, that the words of our Lord, by which the ordinance was established, should be interpreted to mean, that all persons should be admitted into his church by this rite, and that they transmitted this of them to those who afterwards were the teachers in the church.

Baptism was received as a permanent ordinance of the Christian church, suitable places were provided, called baptisteries, which, in some instances, preceded churches, and were, in fact, the point about which other edifices arose, forming an entire church. Of these baptisteries, those of the larger churches, of course, were the most elaborate, and those of the larger churches of England, a portion of the building is set apart for the performance of this rite, and contains the font, so called from fonts, a fountain, perhaps in reference to the original baptisteries, the springs or running streams of the East, or as the Spring of that water which was supposed to be life-giving. The maintenance of a font in the church for baptism is enjoined on every parish. The old fonts of England have capacious basins, large enough to receive the entire child, and to be the instrument of the ordinance. We find that the font was placed in the church, from the beginning, to immerse the whole body. (See Fuller's Church History, p. 105.) Tyndale, writing at the eve of the Reformation, speaks of it as the general practice, and says that the exception in cases of small babies was only poured on the head of the infant. Dr. John Jones, writing in 1579 on the early culture of children, incidentally notices the fact that some of the old priests of that time were accustomed to dip the child very zealously to the bottom of the font. A few years later the practice was giving way, and the custom of sprinkling only becoming general; for Chappell, Bishop of Cork, in the account which he has left of himself, says that he was dipped, as was the custom in the parish in which he was born. He was baptised at King's Lynn, in the reign of Elizabeth. Since then the baptism of infants by immersion has been almost entirely disused in England. (See Fox.)

The Reformation it was intended to continue an ancient practice in the baptism of infants—the true immersion; and there was an ordinance for the purpose in the reign of Edward VI. This has reference to the three persons in the Godhead named in administering the rite; and when performed correctly, as it was in the great ante-room usage, at the first immersion the right side must be downward, at the second the left, and at the third the face. Instances do sometimes occur in which the baptism of infants in the English Church is thus performed. The authorities in the Church of England to enforce the attendance at the public font in the church. Private baptism is rather conceived at than allowed, except in cases in which there is sickness or hardship. An infant in an emergency can form the full service, but only so much as may be needful, in the consecration of himself and the parents, for satisfaction that the child, if it dies, die not unbaptized. The friends of the infant must still repair to the church for the completion of the ceremony. Among Dissenters the baptism of infants has been, for the most part, performed at home.

It is not absolutely necessary that the rite should be performed by a clergyman. The Church of England allows, in certain cases, that a layman may officiate in the church, in a great measure, that Sir John Nicholl stated the case in his judgment pronounced on the 11th of December, 1690, in the case of Kecp and Wickes, clerk. Articles were offered against the clergyman for performing those of two of his partners on the ground that it had not been baptized. It was proved that it had been baptized by a dissenting minister. Sir John Nicholl's judgment was, that the baptism was so far sufficient, and that the clergyman had not contrary to the law, but this has however, been made extra-judicially on this determination.

The Church requires that at baptism there shall be sponsors, from sponsores, to promise, or, in our own Latin tongue godfathers and godmothers, who pledge themselves that the infant shall be brought up in a Christian way. They are to be not less than three, for a male child two men and one woman; for a female child two women and one man. The practice is of great antiquity in the church. It is supposed to have originated in times of persecution, so as to be hidden away from the persecutors, and to secure them helpless off spring some degree of attention from friends of the family, who thus solemnly pledged themselves to see that the child was brought up in the knowledge of Christian teaching. The sponsors threaten to the child, of course, as their duty, and its effect is to introduce other social ties among private families and friends; and persons who voluntarily undertake the office cannot hold themselves absolutely exempt from some attention to the religious education of the infant, especially in the case of the poor, or the criminal negligence, of its natural protectors.

Another incident to baptism, as administered in the English Church, is the giving a name to the child. In the Christians seem to have followed the example of the Jews in assigning the rite of circumcision performed. The name thus given during the performance of one of the sacraments is appropriately called the Christian name. The surname, or name of address, is not on this occasion mentioned; and it is observable, though there there frequent instances of the change of the surname in after life, the instances are extremely rare of any change in the Christian name. In the Catholic Church, indeed, this name is not infrequently changed by the priest at the baptism. In the case of England Protestant Church seems not to have paused in the way in which the change can be legally effected, though some have maintained that it may be changed by the authority of the bishop, if selected by the party at whose request presented himself to the bishop. The Church of England retains the signing the child with the sign of the cross, as a token that it is baptized and becomes a good soldier of Jesus Christ. Thus is one of the ceremonies which the English reformers thought it inexpedient to retain from many ceremonies with which though the practice had been load on in the earlier times of the Church. These additions to the simplicity of the ordinance began in a very early period. Tertullian, a Christian writer, who resided from about A.D. 190 to A.D. 216, says that it was the custom to give the baptized person milk and honey, that he abstained from washing for the remainder of the day. The giving of salt to the new-born and with to saliva, anointing, the imposition of hands, and laying on of the sick, were by the fathers of the church, of the ordinance; and most, if not all, of them were the practices of the English unformed Church. The sign of the cross was alone retained; but this gave great offence to the prelates. All these ceremonies can be the subject of everything in respect to religion to which they are intended to be the precedent, or the express directions of Scripture.

The most important treatises on the subject of baptism, The History of Infant Baptism, by William Wall, D.D., 1779; Reflexions on Mr. Gardiner's Account of Baptism against the Reflections of Mr. Gardiner and others, by W. Wall, 1720; History of Baptism, by Robert Rainfall, 1821.

BAPTIST (JOHN BAPTIST MONNOYER) was born at Lisle, in the year 1835. He commenced to...
studies at Antwerp, with the intention of becoming an historical painter; but growing disinclined of his powers in that art, he travelled to Italy, and devoted himself to a humble wanderer, chiefly the representation of fruit and flowers, in which he showed great talent and acquired high reputation. He went early to Paris, where the spirit and novelty of his style soon attracted attention; and he was engaged to ornament the palaces of Versailles, Meudon, Marly, and Tronon. He was elected to the Academy in 1663. At the invitation of Lord Montagu, then English ambassador at Paris, he accompanied the English Court, where he commenced his practice by decorating Montague House, now the British Museum, with a beautiful series of embellishments. He continued in this country nearly twenty years, enjoying uninterrupted patronage; and his works form conspicuous ornament in the mansions of the various nobility and gentry by whom he was employed. There is at Kensington Palace a looking-glass which he embellished with garlands of flowers, in his happiest manner, for Queen Mary II., who was so pleased with observing the progress of the work, that she sat by during nearly the whole time that he was engaged on it.

Baptist was more employed in ornamenting halls, staircases, and the interior of apartments, than in painting canvasses. The boldness and vivacity of his style are admirably adapted to that sort of embellishment; and even in his easel-pictures there is merit enough to rank him among the most eminent practitioners in his branch of art. His compositions of flowers are like the accidental combination of scattered showers of light, shining in a thousand ways with the freshness and splendour of spring, and his execution is surpassingly fluent and spirited; but touch firm and discriminating; and his colouring has all the freshness of reality.

Baptist certainly cannot be compared with Van Huysum, Rachel Ruysch, or Haygas, in depth of tone, refinement of touch, or exquisite finishing; yet he has left some works which show that he might have acquired considerable excellence even in those qualities had he strenuously directed his attention to them. Six drawings which he executed in England are in the British Museum; and of these: they are representations of East Indian birds, after nature, painted in water colours on vellum, and not less remarkable for truth and expression than for taste and delicacy of pencilwork. A few plates are extant etched by Baptist by his own designs; the subjects are vases with flowers, &c., and are executed with great lightness and spirit.

Baptist died in 1699, aged 64. He left a son, Anthony Amsterdam, who, Young Baptist, who practiced in his manner, but, unhappily, with none of his father's talent, fell far short of the excellence attained by his father.

BAPTIST, JOHN GASPAR, was a native of Antwerp, and a pupil of Bosschaert. He came to England dressed in Larkam's army; but after the restoration, returned to his original profession of painting. He was much employed by Sir Peter Lely, in painting his family and backgrounds; he worked occasionally also for Kneller and Riley. He was not without original talent, and made designs for tapestries which entitle considerable skill in drawing. There is a portrait of Charles II. in St. Bartholomew's Hospital by this artist. He died in 1691.

BAPTISTERY, an ancient building, in which Christians performed the ceremony of baptism. The word is derived from the Latin baptemum, which, by the early writers, denoted the vessel or poxam of the fragmentum used to wash in. (See BAPTISM.) (Plum. lib. 9, ep. 17; lib. 5, ep. 6.) It was called by the Romans Baptisterium, from whence is derived the word baptistery, a place in which the ceremony of Christian baptism is performed. It is the earliest of the Christian baths discovered for a long time after the primitive manner which was practiced by St. John (Matt. vi. 15). Baptes inies were afterwards erected on a large scale, for the purpose of accommodating a greater number of persons. These baptisteries generally stand near the churches to which they belong: the form is, for the most part, hexagonal, although some are circular; and it is very probable that the form of these buildings was imitated from those magnificent Roman baths discovered at Bologna, esp. vi. of Camerone's Roman Baths, and the Church of Santa Maria Maggiore, near Nocera, formerly a Roman bath. (See the vuignette at the commencement of the same work.)

The most celebrated existing baptisteries are those of Rome, Florence, and Pisa: the most ancient is the baptistry of S. Giovanni in Fonte, near the church of S. Giovanni Laterano, at Rome, commonly said to have been erected by Constantine the Great. The plan of this building is an octagon, with a small portico at the entrance; the interior is decorated with eight most beautiful porphyry columns, the finest of the kind in Rome. These columns, unequal in diameter, support an architrave, over which small white marble columns are placed; above these second order there is an attic decorated with pilasters, and this is crowned with a dome. The walls are adorned with fresco, representing the Most Holy Name of Jesus. After the events of the reign of Constantine. In the centre of the building there is an octagonal basin, three feet deep, lined and paved with marble. A modern font now stands in the centre of this basin, raised on steps of marble. The diameter of this structure is about seventy-five feet three inches, from the measurement of Noli; and it appears to have been constructed with the materials of other buildings. Bustace calls this structure a chapel, and informs us that it is 'only, and upon the site of S. Giovanni and Pincianet, was public baptism administered in Rome; many magnificent ceremonies, which occupied the whole night, accompanied this solemnity.' (Bustace's Class. Tour., vol. i. p. 337.)

The Baptistry of Florence, which is also octagonal, with a diameter of six hundred and fifty feet, is in a work entitled Metropolitana Florentina, stands opposite to the principal entrance of the Cathedral. The date of its first construction is unknown: the Florentines pretend that it was originally a temple to Mars. In the interior arrangement of this building, which is circular originally a very fine octagonal basin. The external façades are built of black and white marble, and designed in that peculiar style of Florentine architecture of which Giotto was the perfection. It is in such a state of repair as to be pleasing, but in the description of this building ought to be made after his own designs. The three great bronze doors are celebrated for the beauty of their bas-reliefs, and for the marble and bronze figures above them. The vaults of the doors are divided into pannels, on which are represented the principal events of the life of St. John — the crucifixion, and the transfiguration of Christ — and the Old and New Testament, and so important was the subject considered, that learned men were engaged to select subjects for the sculptor. These individuals were Nicolo da Uzzano and Leonardo d'Antonio. One of the statues was executed early as 1435, and in after times emblazoned by Michelangelo in the highest style of panegyric. The most celebrated of these doors was made by Lorenzo Ghiberti. (See thirty-four engravings by La Terrasse Porta di San Giovanni, Florence, 1775.) Another was made under his direction, assisted by many other artists. Fifty years were employed in making and completing them. (See the work quoted above, in which are also published the contracts for their execution.) The most ancient was made by Andrea of Pisa.

The Baptistry of Pisa, erected between the years 1152 and 1160, by Giotasuki, is of a singular design. The plan is circular, with a diameter of 116 feet; the walls are eight feet thick. The work is of white marble; and the interior, which is like the above, is divided into three stories: in the basement the columns, twenty in number, are engaged, and have arches springing from columns to columns, with a hollow cornice above; in the first story, the columns are plain, and the arches are placed closer together; and the order is surmounted with pinnacles and high pediments, placed at equal distances: the terminations of these parts are crowned with statuary. The columns are in marble; the arches are of stone; the statues, pinacles, and statues. The dome, which is covered with lead, is intersected by long lines of very prominent fretwork: all the lines meet in a little cornice near the top, and terminate in another dome, above which is a statue of St. John. The internal arrangement of the building is like the other, granite columns, placed between four piers decorated with pilasters, are arranged round the basement story, which support a second order of piers, arranged in a similar manner, on which the dome rests, which is famous for its
Baptists, a religious sect, and, in England, a part of the body known by the general name of The Three Denominations of Protestant Dissenters. As the name implies, they hold peculiar views on the subject of baptism: maintaining that this Christian rite ought to be administered by immersion, and not by sprinkling: at such an age that the ordinance can be regarded as the profession of the baptized person's own faith, and not in infancy. Such being their belief, we find the practice of the Baptist congregations diverging in different times. In vindication of their mode of performing the ordinance, they lay great stress on the original word *βάπτισθαι*, which signifies, as they contend, nothing but immersion. They defend the postponement of the rite from the views of the baptist in communion, in which the Apostles are commanded to teach before they baptize. 'Go ye and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Spirit. The reception of the one being thus assumed as an indispensable qualification for baptism, the Baptists require that all to whom they administer it should repent of their sins, believe in Christ, and joyfully receive the word; a profession to this effect is made by most persons who are baptized in their communions.

An outline of the characteristic opinions of this sect has been lately promulgated in the following brochure. That baptism commenced with the Christian dispensation, and was peculiar to it, bearing no analogy to any previous institution, such as circumcision; nor derived from any erroneous enactments, but revealed as a positive law of the kingdom of Christ; 3rdly, That baptism is only scriptural as administered by the immersion of the whole body in water; 4thly, That it cannot scripturally be administered but as a profession of faith in Christ, and truly, That as a command of the New Testament, it is obligatory on all who profess faith in Christ, and is intended to form a great line of division between Christ and the world.

The question of baptism was brought before different councils in the fifth century, whose decrees were in favour of infant baptism. The opposite opinions were therefore anathematized; and those who held them incurred the penalties attached to heresy. The baptismal controversy is thus continued in the writings of the fathers, some of whom did not scruple, in spite of edicts and decrees, to ordain the practice of baptism in infants, as a deviation from scripture and the early custom of the Church. The same view of the subject was more prevalent in the various provinces of the Roman Empire, than in any other that in the ninth century, when that powerful schism arose which led to the formation of the Greek Church, this was one of the articles in which an irreconcilable difference of opinion prevailed between the new communion and the old; the latter adhering to its ancient custom of sprinkling infants in baptism, while the former performed the ceremony by true immersion.

The schism which had occasioned such a defection from the Church of Rome did not remove the name of controversy concerning baptism: but, on the contrary, increased it by the intolerant proceedings which were taken against those who refused to be silenced. Driven from the bosom of their own communion, they took refuge in the communion of the Waldenses, in the valleys of Piedmont, and, as a band dispersed, joined the dissatisfied sects in Germany and France. Amongst whom they sowed the seeds of their own destruction. The zeal with which they laboured to spread these opinions only made them a more conspicuous mark for persecution. No better name, or danger for those who persisted in their adherence to this heresy. All the temporal powers of the Church were involved in extirpating the offensive heresy, but so rapid was its growth under persecution, that the number of those who professed of it in the twelfth century are said by Mabuse to have amounted to one out of five.

From this time to the commencement of the Reformation, Germany was the chief seat of the Baptist societies; from whence, following the course of the Rhine, they spread over Holland. Being thus scattered over that part of the continent in which the principalities of the Reformation were
agitated, they availed themselves of the opportunity of gaining attention to their tenets, of which in that most enlightened age of religious opinions may be dated a new era in the history of baptism. Up to this time the doctrine, though so long and tenaciously maintained, appears not to have bestowed any particular designation upon those who held it. The name of Anabaptist, or distinct sect, was not coined till 1527, commenced in Germany in the days of Luther, under the name of Anabaptists. Unhappily for the success of the doctrine, it was blinded with principles so fanatical and lawless, that none who had a respect for the morals and feelings of his fellowmen could join with those who so grossly disregarded the authority and sanctity of the name of Christ. The Anabaptist sect did the very name of this disorderly sect become, that it has made the advocates for baptismal immersion averse to the name of Anabaptists. The term Baptist has the advantage of being a synonym of the word Baptist, and is derived from the Greek name of the first of the Anabaptists, and, as baptismalism, as an incident of Christianity, is an accident, and not an essential circumstance. It is only necessary for us to remember, in order to preserve the thread of their history, that those persons who first insisted upon the necessity of baptismal immersion were, and are still, frequently known on the continent by the name of Anabaptists (in German Wiedertaufer), although the opinions now held by them bear a close, if not a complete, resemblance to those of their English brethren who are called by that name. In England, the term is adopted by the continental Baptists as a word of reproach; and in Germany they prefer to call themselves Taufgesinnte, and in Holland Doopsgezinde. The Memnonians, so called from Memnon Simonis, always disclaimed and renounced theirs as the name by which they now form a numerous body in Holland, and are found in various parts of Germany; in Prussia they are said to amount to 15,000.

(See Anabaptists; and Geschichte der Kirchen—Reformationsalterthum.)

Little is known of the Baptists in England before the sixteenth century. Their name then appears among the various sects which were struggling for civil and religious freedom. Their opinions, at this early period, were sufficiently tolerated by the authorities, as is evident from the fact that, at a convention held in 1536, they were denounced as ‘detestable heresies utterly to be condemned.’ Proclamations followed to banish the Baptists from the kingdom; their books were burned, and several individuals suffered in the stake. The last person who was burnt in England for his religious opinions was a Baptist, of the name of Edward Wightman, of Burton upon Trent: he was not, however, burnt as a Baptist, but for blasphemy.

We do not hear of any congregation of Baptists in this country before 1607. At that time one was formed by Mr. Smyth, a clergyman of the Church of England, who, having embraced the leading tenet of this denomination, resigned his living and emigrated into Holland, settled on the principles of the Baptists in the metropolis. This encouraged others to follow his example who had hitherto concealed or privately professed their opinions. The forms of worship adopted by these congregations, that sprung up in various parts of England and Wales, did not materially vary from the practice of the Puritans. The reformed churches on the continent furnished a model for all the sects which then contended for the right of nonconformity, and have flourished since under the name of the Three Denominations of Protestant Dissenters. Among these, the Baptists were not the least distinguished for the consistency of their conduct in maintaining the right of private judgment, and in advocating the principle of uniformity of discipline among all who professed the same religion. The Baptists subsist under two denominations, viz., General and Particular Baptists. The latter designation is given to those who hold Calvinistic views, and who are in every respect but their distinctive doctrine the same as the Independents and Unitarians. This group adheres to the doctrine of universal redemption; but they are divided into the Old Connexion (Unitarian), and the New Connexion (Trinitarian), the latter by far the most numerous. Among both the Particular and General Baptists there is another group of secessions. This is the body of the Union of Wh Wilkin, at the Lord’s Supper. Some churches (each society or congregation is a church) do not allow persons who have not received baptism according to their views of it, to join with them in the celebration of this rite. Of this number are some of the Particular Baptists, and all the New Connexion of General Baptists. Others, however, do not scruple to meet, on that occasion, not only those of the Baptist persuasion who hold other opinions widely different from their own, but even persons who do not embrace the Baptist tenet, provided their religious faith is, in other respects, as they conceive, orthodox, and that they explicitly renounce the use of the Lord’s Supper. This is called Pre-Communion. The tolerant spirit which it cultivates, advocated as it has been by those eloquent defenders of liberty, Robert Robinson and Robert Hall, is making rapid progress through the whole denomination.

In Ireland and Scotland, the Baptists have many congregations; but neither there nor in this country do their opinions spread so fast as in the United States of North America. The number of their adherents in that part of the globe is estimated at 150,000. In this country the Particular Baptists are said to amount to 27,500; and the General Baptists to 11,000: these are the numbers of baptized communicants, but not the number of attendants at Baptist places of worship is much greater.

The Particular Baptists support colleges at Bristol, Bradford, Abberavenny, and Stepney, and the General Baptists of the New Connexion have small academies at Wisbeach and Loughborough for the education of young men for the Baptist ministry. They have funds and associations for aged ministers, for the relief of the poor, and for the education of their children. Besides these, their pecuniary exertions for the support of home and foreign missions are very considerable. The English Baptists are among the foremost among the missions and societies of Christianity. For the advancement of this object, they employ no less than three hundred agents in distant countries; in addition to which, they employ a great number in visiting the rural districts at home.

(See An Historical Sketch of the Baptist Denomination; Mosheim’s Ecclesiastical History, vol. iv.)

BAR, in music, a perpendicular line drawn through the staff [see Staff], dividing a piece of music into certain equal portions or measures, in order to render its execution more easy. The division of time contained in any such portion: thus we say, a bar of two minimas, of six quavers, &c.; and a bar in common time, in three eight time, &c. Sir John Hawkins remarks, that the use of bars is not to be traced higher than the year 1574, and that it was considerably later before their use became general. He conjectures that we are indebted to Henry Lawes for their common use, who published his Dialogues, &c. in 1653. That laborious historian may be right as relates to this country; though, with a work lying before us, Madrigali e Canzonette, posti in Musica dal R. P. Serenio Bonini, dated Firenze, 1607, in which the bars appear throughout, we cannot bring ourselves to think that nearly half a century elapsed before so obvious an improvement was adopted in England. Double Bars mark a conclusion. They are likewise placed at the end of each strain; and if accompanied by dots, &c. e.

They indicate that the part next the side on which the dots appear is to be repeated.

BAR is a term applied, in a court of justice, to an inclosure made with parallel gum of timber, three or four feet high, with the view of preventing the persons engaged in the business of the court from being incommoded by the crowd. It has been supposed to be from the circumstance of the counsel standing there to plead in the causae before the court, that those persons who keep the bar, or admitted to plead, are termed barristers; and that the body collectively is denominated the bar; but these terms are more probably to be traced to the arrangements of the common law courts. Prisoners are also brought for trial to the same place; and hence the practice arose of addressing them as the prisoners at the bar. The term bar is similarly applied in the houses of parliament to the breast-high partition which divides from the body of the house the entrance near the door, beyond which none but the members and clerks are admitted. To these bars witnesses and persons who have been ordered into custody for breaches of privilege are brought; and counsel stand there when admitted to plead before the respective houses. The Commons go to the bar

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of the House of Lords to hear the king's speech at the opening and close of a session.

Bar, a large town in the province of Bahar in Hindustan. This town is built on the south bank of the Ganges, and is situated in 28° 58' N. lat. and 85° 46'E. long. The houses in Bar are estimated to amount to 5000 in number; they are ill built, and the whole town presents a very appearance of Bar is a place of considerable trade. (Hamilton's East India Quarterly.)

BAR is the name of three towns in France on some consequence, distinguished from each other by the names of the rivers in which they stand.

Bar-sur-Aube is on the right or north-east bank of the Aube, and on the road from Paris to Bâle, 125 miles E.S.E. of Paris, and 30 miles E. of Troyes, the capital of the department. It is 4° 46' E. of the meridian. It is an ancient town, situated at the foot of a tolerably steep and high mountain, by which it is commanded, and stretching accordingly along the banks of the river from which it takes its name. Bar was once of more importance in former times. Four fairs were held in the year, to which merchants resorted from different parts of Europe. There were separate quarters in the town distinguished as the Hollanders quarter, the Germans quarter, the quarter of the men of London, and others. A very handsome synagogue existed here. At present the trade of the place is in the wines of the neighbourhood, woolen and hennep cloth, serge, baxier, and paper. These goods are conveyed to Paris partly by the Aube (which, however, is now made use of), partly on the canals, and partly by land, by means of a road, to the sources of the Seine. (Dupin, Traité des Produits de la France.) The church at Bar was collegiate. The population in 1822 was 3030.

On the mountain at the foot of which Bar stands is the tomb of the Prince of Orange, who was assassinated here in 1544, and also the tomb of a Prince of Orange (who was killed at the siege of St. Dié in 1544), brought from the church of St. Maxime and is the work of a sculptor of the sixteenth century. Liger Rice had several copies of the monument mentioned. Besides these two churches there were monasteries of Carmelites and of the Annunciation, also a chapel of Notre Dame de Paix, in the upper town, and a lower town the monasteries of the Augustines and of the Benedictines were situated in the middle ages.

Bar-le-Duc is celebrated for its sweetmeats: it manufactures a great deal of cotton yarn, also some women's clothes and stuffs, baxier, laces, hats, gloves, and leather. Many of the cotton works are moved by water, and one at least by steam. The river is navigable, and a canal has been dug to facilitate navigation and to prevent the town from being isolated. Three small lakes are situated near the town. The town is well built, and there is a handsome stone bridge over the Aube. The town is 3° 10' 10" long. It is the capital of the department.

In the tenth century Frederick, Duke of Mecklenburg, or Upper Lorraine, and brother-in-law of Hugues or Hugh Capet, built a fortress to defend Lorraine from the incursions of the Saxo-Germans. This castle, the name of Barre or baron (barrier) was given from its situation on the frontiers and the purpose of its erection; it became the nucleus of the town of Bar. This castle was subsequently enlarged, but a great part of it was destroyed by fire in 1649, and a further part was demolished in 1670 by order of Louis XIV.

Bar lies on the side of a hill, and is divided into the upper and lower town: the former was, previous to the Revolution, occupied almost exclusively by the nobility; but these emigrated in a body (en masse), and the upper town seemed for a while deserted. In this upper town, or rather on the declivity a little below it, but commanding the lower valley, are the remains of the ancient castle, which in front of them an open space, from which is an almost descent to the lower town. The lower town is the seat of trade, and is more extensive than the upper town, standing under the hills along the river. The town may be divided into the upper and lower, the former being the seat of the local administration, and the latter is the scene of the transactions of the town.

Before the Revolution there were many religious establishments at Bar-le-Duc. There were two collegiate churches, that of St. Maxime or St. Maxime (Maximian) at the bottom of the open space in front of the castle, which separates the upper and the lower town, and that of St. Pierre (St. Peter) in the upper town. These churches that of St. Maxime is the most ornamented; that of St. Pierre contains a remarkable piece of sculpture, a body as on a couch, in the style of the sixteenth century, and the tomb of a Prince of Orange (who was killed at the siege of St. Dié in 1544), brought from the church of St. Maxime and is the work of a sculptor of the sixteenth century. Liger Rice had several copies of the monument mentioned. Besides these two churches there were monasteries of Carmelites and of the Annunciation, also a chapel of Notre Dame de Paix, in the upper town; and a lower town the monasteries of the Augustines and of the Benedictines were situated in the middle ages.

Bar-le-Duc is a town in the department of Aube, on the road from Paris through Troyes to Dijon, 110 miles E.S.E. of Paris, and 18 miles E. of Troyes. It is on the left bank of the Seine (from which it takes its name) and is a priory of Notre Dame. In the town or suburbs were establishments of Capuchins, Minims, of the nuns of St. Charles, and of Charity. The sisters of St. Charles had charge of the hospital of Bar, formerly on the banks of the Seine but afterward removed to the summit of the mound, by means of a railroad, to the sources of the Seine. (Dupin, Traité des Produits de la France.)

The population in 1652 was 12,000.

The arriernommence of Bar-le-Duc comprehended a space of 600 square miles, and contained, in 1652, 92,134. (Expilly, Dictionnaire des Géographies; Dictionnaire Universel de la France dans son état actuel jusque en 1817; Malte Brun, etc.)

For an account of the castle of Bar, see Barres, Le. Bar-sur-Seine, a town in the department of Aube, on the road from Paris through Troyes to Dijon, 110 miles E.S.E. of Paris, and 18 miles E. of Troyes. It is on the left bank of the Seine (from which it takes its name) and is a priory of Notre Dame. In the town or suburbs were establishments of Capuchins, Minims, of the nuns of St. Charles, and of Charity. The sisters of St. Charles had charge of the hospital of Bar, formerly on the banks of the Seine but afterward removed to the summit of the mound, by means of a railroad, to the sources of the Seine. (Dupin, Traité des Produits de la France.)

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Revolution it contained a convent of Mathurin or Trinitas,
monks, and a monastery of Ursulines; also an hospital, the
Hôtel Dieu, with twelve beds: it possessed the right of
sending deputies to the States-General of Burgundy.

There was formerly a fortress on the hill for the protec-
tion of the town, but it was razed by the inhabitants in 1793.
On the same hill was a chapel, built in the latter part of the
seventeenth century, in which was an image of the Virgin,
said to have been found in an old oak in a wood a short
distance from the town. This image drew great crowds of
women from the surrounding country to worship.

Bar-sur-Seine was the capital of a small county of the same
name in Burgundy. There is an iron mine, and a quarry
of excellent marble at Riel les Eaux, in the neighbourhood.
The county of Bar was under its own counts till 1323, when
it passed to the house of the Dukes of Burgundy. It was
bought by Philip IV. (le Hérit) of France; he ceded it in
1433 by Charles VII. to the Duke of Burgundy, and was
again annexed to the domains of the crown of France.
Louis XI. It is the central district of the step, as Paris
is of Bourbon, Montpensier, and Orleans. (Kapuly, Dic-
tionnaire des Géog. Hist., &c.; Dictionnaire Universel de la
France, &c.)

BARABA, or BARABINSKAJA STEP. Eastward of
the great spur of the Ural Mountains, and between
the banks of the Irtych, Irtysh, and the Ob, which
crosses it from north to south near the centre of
the region, is the Baraban Step. It forms nearly the whole
southwestern portion of the Russian province of Tobolsk, and
part of the south-western districts of the adjoining province
of Tomsk, and is composed of some of the most fertile
provinces of the Russian empire. This province is
in many parts fertile, but full of swamps and salt lakes,
the waters of which do not drain into the sea, but spread
in many directions. The Baraban Step is also watered
by the Taras, Om, Tartas, Tchus, and Tar, as well as
watered with forests of fir and birch, owing to which
some parts are quite uninhabitable. In some parts, Cochrane tells us, 'it exhibits a poor scene.'

The climate is very severe, and the winters are long and severe. The
people are at first recruits and exiles, whom the fertility of the soil
prompted the Emperor Catharina to settle upon it in the year 1744; and they
and their successors have cultivated it to such advantage, that
the fertile soil of the region, and the mild climate, have contributed
'to the success of an agricultural enterprize,' which the
people have found it profitable to undertake. The

is no part of Siberia where one is not impressed with the
beauty of the country, and the grandeur of the
scenery. The mountains are covered with dense forests,
and the valleys are filled with meadows and
pastures. The climate is mild and
healthful, and the people are happy and contented. The
language is a mixture of Russian and
Tatar, and the religion is a blend of
Islam and Christianity. The
people are of medium height, with
their hair and eyes black, and their
complexion dark. They are
peaceful and contented, and are
content to live in their
villages, with their families and
flocks. They are good farmers,
and their crops are abundant. They
are good hunters, and their
hunting is a regular occupation.

BARABHAT, the modern capital of the Rajah of Gurrul,
was formerly the capital of the kingdom of the Gaur, in Northern
Hindustan, in 36° 45' N. lat., and 78° 22' E. long. This
town suffered very severely in 1803 from an earthquake,
in which 300 of the inhabitants were killed. The effects
of this earthquake are still visible, although
the town has been rebuilt. It was so
severe that it exhibited for many
years after the earthquake. It
was described as, in 1813, as
having not a dozen houses standing in a properly
habitable condition, and as being almost buried in a
jungle of rush and reed. At a later period the
people were said to have suffered from a
tribe of wild beasts, which were
often to be seen in the
villages.
which it is distant 48 miles in the direction of N.N.W.
The natives who make the pilgrimage to Gangourti, in the
Himalayas mountains, where the Gangas first appears, are
accustomed to make some stay at Barahat. (Hamilton's
East Ind. Journ., 1842.)
BARALIPTON. [See SYLLOGISM.
BARANTSCHINSK or BARANTSCHINSKOI
ZAVOD, a mining town in the Russian government of
Perm, on the western side of the great metalliciferous chain of
the Urals, near the common Russian-Persian frontier; it is situ-
ated on the Targil, and within the Permnian circle of Verchoturia, which, according to Geor-
gies, lies between 57° 50' and 61° N. lat., and 56° 20' and 60° 30'
E. long. The iron-mines near this place, to which it is in-
trinsically connected, belong to the northeastern Sysian
chain, opened in 1746; they employ 290 head-workmen, having
others labouring under them: the ores yield from twenty-
five to sixty per cent. of pure metal; and their annual pro-
duce is estimated at 3,750 tons of raw, and 150 tons of
malleable iron.
BARANYA, a province (comitat) in the south-western
part of the kingdom of Hungary, lying between 45° 33' and
46° 20' N. lat., and 17° 40' and 19° E. long., bounded on
the northeast by the circles of Siémgé or Somogy, and Tolna, and
on the west by part of the former of those circles. It
contains about 1,920 square miles, and presents an agree-
able alternation of hills and valleys in the northern and
mountainous districts, from the numerous streams of the Styrian
range by which it is intersected in those quarters: the
vale of Fünfkirchen in particular is a delightful country.
There is a range of heights also in the east of Baranya,
stretching between Monostar and the Danube, to which
the province of Transylvania adjoins. To this latter, the
majority of the inhabitants are Magyars, and the
multitude of vineyards on their activities. The plains
below them, as well as those about Mohács and the large
swampy island of Mohács or Margitta, which is formed by two
arms of the Danube, and comprises in the centre, according
the Hexenturm, the kwad of Hentewire. The
south-easternmost part of Baranya, more particularly that
portion of it which lies next the confines of the Danube
and Drave, is covered with morasses. Independently of
these great rivers, the province derives much advantage
from the waters of the Karasztai and Okar or Okor, the
former of which flows southward to Luta, and thence takes a
north-easterly direction until it falls into the Danube
near Batina; the latter, which is ultimately called the
Drave or Maribor, and is parallel with the
Drave, and is frequently lost among the swamps which it
crosses. In order to draw off the waters which inundate the
lands adjoining the Karasztai, Duke Albert of Saxe-
Teutchen, a considerable landed proprietor in those parts,
made a great number of artificial canals, which are two
hundred and ten feet in width, by which he recov-
ered above 8,000 acres of pasture-ground. The natural
fertility of Baranya renders it one of the most productive
regions of Hungary; its climate, and its situation,
out of its whole surface of 1,228,800 acres, the quantity
turned to account, even in the year 1792, was 1,049,300
acres, of which 82,910 were occupied by vineyards: and we
learn from another source that 458,970 are cultivated as
arable land. The climate, with the exception of that of the
swampy districts, is said to be healthy; but the winds
and weather are liable to great variations. Baranya grows
excellent wheat and most other kinds of grain, as well
as much tobacco; but the cultivation of cotton, which
was introduced into Hungary only about 110 years
ago, has not made much progress. It produces considerable quantities both of
red and white wines: of these, the sort produced on the
Villany soil, north of Sikké, is much prized by the episcopate of Visse-
nan; and next to it, the growths of Boly, Kiss-
na, and Magyarkövesd are esteemed. The
abundant; a plentiful supply of timber is obtained from
380,000 acres of woodland, on which the oak predominates;
the yield of the trees it produces, many afford palatable
beverage, is equal to the quantity annually used in
jasparagus grows in a wild
state. Its woods afford immense crops of acorns, by
which thousands of swine are maintained; it is well
provided with horned cattle, but scantily with sheep; the
breed of horses, particularly that of the Mohács Island, is
excellent. The province abounds in numerous species of
afford fish in abundance, among which the carp, pike,
and sturgeon are most noted. The mineral productions of
Baranya consist of limesones, marble, porphyry, millstone,
slate, alum, and coal; the coal is raised near Fels-
kirchen, Komák, and Vasaó. Some glass is manufactured.
The population, which was 183,243 in 1787, 192,313 in 1800,
and 213,573 in 1828, is nearly proportionate to the amount
of these about 170,000 are Roman Catholics, and about
22,000 Protestants; the remainder are about 15,000 Jews
and Greeks. Baranya is divided into six curas, viz. —
Fels-kirchen (with the chief town and capital of the
province, the county seat), Komák, Vasaó, Bolya,
St. Leonor (chief town St. Kiryl), Sikó (chief town same name),
Baranyavár (Bolly), Mohács (chief town and name),
and Metrek (Petavár). It contains one free town, 11 market-
towns, 341 villages, and 22 private small towns or villages.
The town of Boly, which extends over an area of 305 square miles, and has 25,000 inhab-
It lies on the improvement
of which its late possessor, the Duke of Saxe-
Tesschen, German translated as 'Königspfalz', or the seat
Archduke Charles; several colonies of Germans have been
settled upon this property, particularly in the vicinity of
the beautiful village of Albertsdorf; and the esteemed red wine
Villany is grown near a village upon it, from which the
city of the same name is supposed to have been situated, a num-
ber of Roman and Turkish coins have been here found.
BARAS KHOTAN, or BARS KHOTAN (see D'A-
nville's Map of the Chinese Empire cast pearls, Parao
Amer. Paths.) At the city of the same name, are the
ruins of a large town on the banks of the Kherin
or Kheroun, in the country of the Mongols: they are
according to Father Gerbillon, the only European who ever
visited them, in 46° lat, and 8° 47' E. long. When this travel-
er passed the river near these ruins, they con-
isted of extensive remains of mud walls, and two
mounds in a state of decay. Da Halde thought that the
town had been built by the great emperor Kubla; but the
German translation of the name, suggestive of the
Mongols, supposes with more reason, that this town
was built about the middle of the fourteenth century, when the descendant of Tsenkian Khan were expelled from China
and retreated to their ancient territories, the great desert of
Asia. At the end of the rainy season, in the month of
Togbon Timur, gathered the Mongols who had escaped from
the fury of the Chinese, and after uniting them with those who had remained in the desert, erected them around the
future seat of their empire, and himself died there in 1210.
At that time it is supposed that the river, which now flows six
miles in circumference. Nothing certain is known re-
specting its destruction. Timur's son transferred the seat
of the empire to the ancient town of Karakorum, further to
the north, and the Tartar nation, in consequence, continued
until the fifteenth century, to be divided into various
wars which in the fifteenth century, by the
Mongols, seem to have brought about its abandonment and final
destruction. It appears to have received the name of 'The
City of the Tigers' from the roving of these animals, which
were considered a favor by the Mongols.
(Da Halde: Ritter's Asia.)
BARATIER, JOHN PHILIP, born in January 1721
at Schwabach, in the Margravate of Ansbach, was
the son of Francis Baratier, pastor of the French Protestant
church near Schwabach. He early made himself
familiar with the history of the French Revolution, and
acquired a knowledge of all the literature of the French
language, which he translated into English, and into
several languages, was put into his hands, which he trans-
lated without having learned anything of the language.
Between four and five years of age he began to study Greek,
and in fifteen months was able to read the New Testament
that language, and to translate it into Latin. Towards
the end of his sixth year he began Hebrew, in the study of
which he spent three years. He then proceeded to Eng-
lish grammar, and read with great avidity the books of
Shakespeare and other authors. At the age of ten years he made a dictionary of the most useful Eng-
lish and Chaldaic words. He next undertook the translation
of
ton of the travels of Benjamin of Tudela, a Hebrew writer of the twelfth century. Two Latin translations of this work, one by Anselm Montanus and the other by Constantine Lem- pius, were published in 1470. Baratier found translations, wrote in French, and added to it copious notes, and eight dissertations at the end, which are more interesting than the text itself. The subjects of these dissertations are the following:—1. On the person of Benjamin and his illustrious family, and on Benjamin’s mission to the Holy Land, and his not travel over the countries which he describes, ‘from Spain unto China,’ but that he acted merely as a compiler of the accounts he gathered from others, and especially from his Hebrew masters, were scattered all over the world.

2. Baratier’s second dissertation is on the ‘Triumph of the Jews in Judaea, and their succession.’


4. On the authority of the chiefs of the Jews after their dispersion in various countries. Dissertations 5, 6, and 7 are on the kingdoms and empires which the Jews have pretended that they possessed in various parts of the world, and their stories and romances on the subject.

5. On the ten tribes of Israel, and the place of their transportation. These are all curious subjects to be treated by a child eleven years old. He finished his work in about six months in 1732, but it was not published till 1734, in two volumes, small 8vo, Amsterdam. After this Baratier turned his attention to theological studies, and especially to the Greek and Latin Church.

6. Some time after he undertook to refute Samuel Cerrisii, the celebrated Universalist, who had written a book styled Artonomius. The title of Baratier’s reply will show the subject of the controversy:—Antis-Artonomius, seu in Antiquitates S. Johannis, ex natione ecclesiastica decretum adversus Artomini, Neo-Photistam, Critica vinculatorum atque illustratutrum; cum in Anno accedit dissertatio de dialogis tributis, vulgo Theodoro tributis. Nuremberg, 1735.

7. Frederic William, King of Prussia, having appointed Baratier’s father to the French Protestant Steetin, the family left Schwäbach in the beginning of 1725. In passing through Halle, young Baratier, whose fame had long before reached that university, was made Master of Arts, after under- going an examination and sustaining a public disputation.

8. On his arrival at Berlin the king was pleased with his conversation. He had him repeatedly at the palace, and made him presents of books and money. The Royal Society of Sciences at Berlin named Baratier one of its members. The king urged upon both father and son the propriety of the latter applying himself to some regular profession, and he suggested that of the law. In order to facilitate this he beckoned the destination of the elder Baratier, and appointed him to the French church of Halle, and granted him a pension; but, it being a year during the time he was to study at that university. The family therefore returned to Halle in April, 1735. During the next four years Baratier attended the courses of the four law professors of civil, canon, public, and feudal law. He followed his inclination so far as the particular inclinations for them, with the exception of public law, in which he seemed to take an interest. He at the same time found leisure to pursue his more favourite studies. He had begun a History of the Heresies of the Anti-Trinitarians, which he left in MS. Several dissertations also on various subjects of philology, history, and antiquities, were inserted in the Bibliotheca Germanica. The last work he published was on the succession of the early bishops of Rome: De sanctis episcopis dignis et successoribus. Antiquissimae Episcoporum Romanorum, inde a Petro usque ad Ictorem, 4to. Utrecht, 1740. This was the beginning of a work which he designed on the history of the first centuries of the Church. He also began a History of the early emperors. Baratier’s chest was naturally weak; a cold which he took brought on an obstinate cough, and in October, 1739, he spat blood. He passed the following winter, which was a severe one, in bed, but kept his strength out. In September, 1740, he became much worse; his weakness was extreme, and he could no longer read, which was to him the greatest privation. On the 5th of October he expired in his arm-chair, at the age of ninety-two years. The event came as a shock to the ideas of death, and looked on the world as a stage upon which every one was called to act his part for an allotted period. He also felt at times the unsatisfactory nature and uncertainty of human knowledge, and often expressed his disappointment at finding so little to be depended upon in so many works which he had read: the more he strove after truth the farther it seemed to recede from him. His morals were pure, his habits frugal and unassuming, and in the manner in which he lived to the last with his father and mother, to whom he was tenderly attached. Though not fond of play and amusements, he was cheerful and lively. The life of this exemplary and truly virtuous ordinary boy was written by Mr. Forney, from the materials furnished by his father. A second edition was published at Frankfort and Leipzig in 1755. At the end is a long catalogue of the numerous works which he left in MS., mostly unfinished.
Abraham, and his use as baptism did within the scope of the promises to believers in Christ; that we read in the scriptures of whole households being baptized at once; that infant-baptism certainly did prevail in the Church at a very early period; that it has been received by the authorities in the Roman Church, and in the churches of England; as well as in most of the Protestant Churches. How baptized it among those who attribute a saving efficacy in any form to the ordinance, it is to be supposed that a parent would think himself criminal if he neglected to obtain this blessing for his child. It was indeed, the impulse of law that regarded it as but initiatory, that there is a propriety in Christian parents presenting their offspring newly-born in a Christian temple, and pledging themselves to a Christian minister, and in the presence of a Christian congregation, that they would transmit to them the knowledge and fear of God through faith in Jesus Christ.

The Quakers and some other Christians contend against the perpetuity of the ordinance. They say that it was intended only for the apostolic age, or, at most, only for persons of mature age who have been converted from Heathenism or Judaism. Against this opinion there is the constant practice of the Church. We find at the very close of the scripture history the apostles and other Christians presenting infants for baptism, as well as of that history of the affairs of the church which is to be collected from writers whose works are not in the New Testament, we find the ordinance in use among believers. The inference drawn from this is, that the words of our Lord, by which he referred the ordinance to the apostles, mean to say, that all persons should be admitted into his Church by this rite, and that they transmitted this sense of them to those who afterwards were the teachers in the Church.

When baptism was received as a permanent ordinance of the Christian Church, suitable places were provided, called baptisteries, which, in some instances, preceded churches, and were, in fact, the point about which other edifices arose. First, the font in the church, or baptismal font, became fixed; and, lastly, the font was allowed, none remain in England; but in many of the larger churches of England, a portion of the building is set apart for the performance of this rite, and contains the font, so called from fonte, a fountain, perhaps in reference to the original baptisteries, the springs or running streams of the East, or the spring of that water which was supposed to be life-giving. The maintenance of a font in the church for baptism is enjoined on every parish. The old fonts of England have capacious basins, large enough to receive the entire body of the infant. It was from these fonts in the Church, from the beginning, to immerse the whole body. (See Fuller’s Church History, p. 109.) Tyndale, writing at the time of the Reformation, speaks of it as the general practice to immerse the infant, and not to sprinkle, when the water was only poured on the head of the infant. Dr. John Jones, writing in 1579 on the early culture of children, incidentally notices the fact that some of the old priests of that time were accustomed to dip the child very zealously to the bottom of the font. A few years later the practice was giving way, and the custom of sprinkling only became general; for Chappell, Bishop of Cork, in the account which he has left of himself, says that he was dapped, as was the custom in the parish in which he was born. He was baptized in a font, in those days in the reign of Elizabeth. Since then the baptism of infants by immersion has been almost entirely disused in England. [See Foster.]

The Reformation it was intended to continue an ancient practice in the baptism of infants—the true immersion; and there was an ordinance for the purpose in the reign of Edward VI. This has reference to the three persons in the Godhead named in administering the rite; and when performed according to this, it is supposed to be the greatest antecedent usage, at the first immersion the right hand is to be downward, at the second the left, and at the third the face. Instances do sometimes occur in which the baptism of infants has been performed by immersion; and it has always been an object with the authorities in the Church of England to enforce the attendance at the public font in the church. Private baptism is rather considered as than allowed, except in cases in which there is sickness or some other compelling reason. There is no longer such close form the full service, but only so much as may be needful, in the estimation of himself and the parents, for satisfaction that the child, if it dies, die not unbaptized. The friends of the infant must still repair to the church for the completion of the ceremony. Among Dissenters the baptism of infants has, for the most part, performed at home.

It is not absolutely necessary that the rite should be performed by a clergyman. The Church of England allows, in a great measure, that Sir John Nicholl resisted the case in his judgment pronounced on the 11th of December, 1870, in the case of Kepp and Weckers, clerks. Articles were brought against one of the clergymen for not baptizing two of his parishioners on the ground that it had not been baptized. It was proved that it had been baptized by a dissenting minister. Sir John Nicholl's judgment was that baptism was so far sufficient, and that the clergyman had acted contrary to the law, but had not been made extra-judicially on this determination.

The Church requires that at baptism there shall be sponsors, from whom, to promise, or, in our own Saxon tongue, godfathers and godmothers, who pledge themselves at the baptism of an infant shall be brought up in a Christian way. They are to be not less than three: for a male child two men and one woman; for a female child two women and one man. This practice is of great antiquity in the Church. It is supposed to be one of the objects of the ordinance; that thereby the child might be hurled away to death; and that for these helpless offspring some degree of attention from friends of the family, who thus solemnly pledged themselves to see that the child was brought up in the knowledge of Christ, might be expected. The ordinance is not peculiar to England. The effect is to introduce other social tie among private families and friends; and persons who voluntarily undertake the office cannot hold themselves absolutely excused from some attention to the religious education of the infant, especially in the case of the sixth, or the criminal negligence, of its natural protectors.

Another incident to baptism, as administered in the English Church, is giving a name to the child. In the English Church this is an ordinance, as there are special persons who assigned a name when the rite of circumcision was performed. The name thus given during the performance of one of the sacraments is appropriately called the Christian name. The surname, or name of address, is not on this occasion mentioned; and it is observable, that though there are frequent instances of the changes of the surname in after life, the instances are extremely rare of any change in the Christian name. In the Catholic Church, indeed, this name is not unfrequently changed by the parents before the third year. The practice of giving a Christian name in the English Protestant Church seems not to have passed out of the way in which the change can be legally effected, though some have maintained that it may be changed by the majority of the persons present at the ceremony. It is a party in the manner of presenting himself for confirmation.

The Church of England retains the signing the infant with the sign of the cross, as a token that it is baptized and become a good soldier of Jesus Christ. This is one of the ceremonies which the English reformers thought it necessary to retain from many ceremonies with which their ordinance had been loaded in the earlier times of the Church. These additions to the simplicity of the ordinance began at a very early period. Twelfth-day, a Christian writer, who refers from about A.D. 214 to A.D. 218, says that there was the custom to give the baptized person milk and honey, and that he abstained from washing for the remainder of the day. The giving of salt the touching the mouth, and rubbing with palms, is, on a given time, the signs of baptism, and belong to all ceremonies of religious burial in respect of what they consider to be the precedent, or the express directions of Scripture.

The most important treatises on the subject of baptism are the History of Infant Baptism, by W. Wall, D.D., 1763; Baptism Against the Rejections of Mr. God and Others, by W. Wall, D.D., 1720; History of Baptism, by Robert Boase, D.D. 1720.

BAPTIST (JOHN BAPTIST MONNOYER) born at Lisle, in the year 1633. He commenced his
studies at Antwerp, with the intention of becoming an historical painter: but growing dissatisfied of his powers in that line of work, he turned to landscape, and devote himself to an humbler walk, chiefly the representation of fruit and flowers, in which he showed great talent and acquired high reputation. He went early to Paris, where the novelty of his style soon attracted attention; and he was engaged to ornament the palaces of Versailles, Meudon, Marly, and Trianon. He was elected into the Academy in 1663. At the invitation of Lord Montague, then English ambassador at Paris, he accompanied his Excellency to England, where he continued his practice by decorating Montague House, now the British Museum, with a beautiful series of embellishments. He continued in this country nearly twenty years, enjoying uninterrupted patronage: and his works form conspicuous ornaments in the mansions of the various nobility and gentry by whom he was employed. There is at Kensington Palace a looking-glass which he embellished with garlands of flowers, in his happiest manner, for Queen Mary II., who was so pleased with observing the progress of the work, that she sat by during nearly the whole time that he was engaged on it.

Baptist was more employed in ornamenting halls, staircases, and the interior of apartments, than in painting decorative pictures. The vivacity and vivacity of his style are admirably adapted to that sort of work: but even in his easel pictures there is merit enough to rank him among the most eminent practitioners in his branch of art. His compositions of flowers are like the accidental companies of children, and his manner of handling his execution is surpassingly fluent and spirited; his touch firm and discriminating; and his colouring has all the freshness of reality.

Baptist certainly cannot be compared with Van Huysem, Rubens, or Mignon, in depth of tone, refinement of touch, or exquisite finishing: yet he has left some works which show that he might have acquired considerable excellence even in those qualities that he had strenuously directed his attention to them. Six drawings which he executed in this manner are preserved: they are representations of East Indian birds, after nature, painted in water colours on vellum, and not less remarkable for truth and expression than for taste and delicacy of penilling. A few plates are extant etched by Baptist, by his own designs: the subjects are vases with flowers, &c., and are executed with great spirit and finish.

Baptist died in 1699, aged 64. He left a son, Anthony Baptist, called "The Leper Baptist," who succeeded in his manner, but was, although it seems, without dueffet of talent, fell short of the excellence attained by his father.

BAPTIST, JOHN GASPAR, was a native of Antwerp, and a pupil of Bosschaert. He came to England about 1650, and four engravings observed in this country after the restoration, returned to his original profession, and was much employed by Sir Peter Lely, in painting his dresses and back-grounds: he worked occasionally also for Kneller and Riley. He was not without original talent, and made designs for tapestries which evinced considerable skill in drawing. There is a portrait of Charles II. in St. Bartholomew's Hospital by this artist. He died in 1691.

BAPTISTRY, an antient building, in which Christians performed the ceremony of baptism. The word is derived from the Latin Baptistery, a pool or vessel or piscina of the frigidarium used to wash in. (See BAPTIS.) (Plin. h. r. 17; lib. 6, c. 8.)

Baptistery was afterwards erected on a large scale, for the performance of the same ceremonies. These baptisteries generally stand near the churches to which they belong: the form is, for the most part, hexagonal, although some are circular; and it is very probable that the form of these buildings was imitated from some arrangement in a Roman bath. (See Roms and the plan of Roman baths discovered at Bologna, esp. vol. i. of Camerone's Roman Baths, and the Church of Santa Maria Maggiore, near Nocera, formerly a Roman bath.) (See the vignette at the commencement of the same work.)

The most celebrated existing baptisteries are those of Rome, Florence, and Pisa; the most antient is the baptistery of St. Giovanni Lateran, near the church of St. Giovanni Laterano, at Rome, commonly said to have been erected by Constantine the Great. The plan of this building is an octagon, with a small portico at the entrance; the interior is decorated with eight most beautiful porphyry columns, the finest of the kind in Rome. These columns are unequal in diameter, support an architrave, over which eight small white marble columns are placed; above this second order there is an attic decorated with pilasters, and this is crowned with a dome. The walls are adorned with frescoes, representing scenes from the history of the events of the reign of Constantine. In the centre of the building there is an octagonal basin, three feet deep, lined and paved with marble. A modern font now stands in the centre of this basin, raised on steps of marble. The diameter of this structure is about seventy-five feet (after the measurement of Nolli); and it appears to have been constructed with the materials of other buildings. Rustuce calls this structure a chapel, and informs us that it is only, 'full upon the eve of Easter.' The Pope consecrated it was public baptism administered at Rome; many magnificent ceremonies, which occupied the whole night, accompanied this solemnity. (Rustuce's Class. Tour, vol. i. p. 337.)

The Baptistery of Florence, which is also octangular, with a central tower of the same proportions, in a work entitled Metropoliatana Florentina, stands opposite to the principal entrance of the Cathedral. The date of its first construction is unknown: the Florentines profess that it was originally a temple to Mars. In the internal arrangement, six arches of great size, and supported by columns, is employed to support a gallery, which is carried nearly all round the interior; the vaulting is decorated with mosaics, by Andrea Talit, the scholar of Cimabue; on the pavement lie a large circle of copper, representing the signs of the zodiac upon it; and in the centre of this round originally a very fine octagonal basin. The external façades are built of black and white marble, and designed in that peculiar style of Florentine architecture of which Giotto was the father. Perhaps it is, in its original state, one of his designs. The three great bronze doors are celebrated for the beauty of their bas-reliefs, and for the marble and bronze figures above them. The vaults of the doors are divided into panels, on which are represented the principal events in the life of St. John the Baptist. (Rustuce's Class. Tour, and subjects from the Old and New Testament; and so important was the subject considered, that learned men were engaged to select subjects for the sculpture. Those infaults were Nicolo da Uzzano and Giovanni da Natale, and a panel by D'Antonino, and the three lower niches, by Domenico di Firenza, Florence, 1775, in small folio, in the British Museum.) Another was made under his direction, assisted by many other artists. Fifty years were employed in making and completing them. (See the work quoted above, in which are also published the contracts for their execution.) The most antient was made by Andrea of Pisa.

The Baptistry of Pisa, erected between the years 1152 and 1160, by Domenico, is of a singular design. The plan is circular, with a diameter of 116 feet; the walls are eight feet thick; the roof is conical, and surmounted with a dome in the shape of a pear. The external elevation is divided into three stories: in the basement the columns, twenty in number, are engaged, and have arches opening from each for columns with a bold cornice above; in the first story the columns are smaller, stand out in relief, and are placed closer together; and the order is surmounted with pinnacles and high pediments, placed at equal distances; the terminations of these parts are crowned with statues. This is a very different story from that of the octagonal baptistery at Rome, with its mezzes, pinnacles, and statues. The dome, which is covered with lead, is intersected by long lines of very prominent fretwork: all the lines meet in a little cornice near the top, and terminate in another dome, above which is a statue of St. John the Baptist. The internal design of the building is also very fine, the granite columns, placed between four piers decorated with pilasters, are arranged round the basement story, which support a second order of piers, arranged in a similar manner, on which the dome rests, which is famous for its
Formia; La Terza Porta di S. Giovanni di Firenze, small folio; Nolli’s Plan of Rome; and the Plan and Elevations of the Baptistery of Pisa, by J. and F. de Miland. The two last are in the King’s Library in the British Museum. Plans, sections, and elevations of this building are given in a very beautiful and accurate work by Messrs. Taylor and Cressey, entitled, Architecture of the Middle Ages in Italy.

BAPTISTS, a religious sect, and, in England, one part of the body known by the general name of The Three Denominations of Protestant Dissenters. As the name implies, they hold peculiar views on the subject of baptism; maintaining that this Christian rite ought to be administered by immersion, and not by sprinkling; at such an age that the ordinance can be regarded as the profession of the baptized person’s own faith, and not in infancy. Such is the belief of the majority of the sect at all times. In vindication of their mode of performing the ordinance, they lay great stress on the original word βαπτίζω, which signifies, as they contend, nothing but immerse. They defend the postponement of the rite from the time of the baptismal commission, in which the Apostles are commanded to teach before they baptize. ‘Go ye and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Spirit. The reception of the Gospel being the assumed condition of admission for baptism, the Baptists require that all to whom they administer it should repent of their sins, believe in Christ, and joyfully receive the word; a profession to this effect is made by most persons who are baptized in their communion.

An outline of the characteristic opinions of this sect has been lately promulgated in the following broadsheet. That baptism commenced with the Christian dispensation, and was peculiar to it, bearing no analogy to any previous institution, such as circumcision: nor in any sense derived (as some have imagined) as a political custom of the law of the kingdom of Christ; 2dly, That baptism is not scriptural as administered by the immersion of the whole body in water; 3dly, That it cannot scripturally be administered in any other manner, than by full immersion, and not by sprinkling, and not by pouring; 4thly, That as a command of the New Testament, it is obligatory on all who profess faith in Christ, and is intended to form a great line of separation between Christ and the world.

The question of baptism was brought before different councils, in the fifth century, whose decrees show a decided favour of infant baptism. The opposite opinions were therefore anathematized; and those who held them incurred the penalties attached to heresy. The baptismal controversy is alluded to in the writings of several of the fathers, some among whom did not adopt the church decrees, to condemn the practice of baptizing infants, as a deviation from scripture and the early custom of the Church.

The same view of the subject was very prevalent in the western provinces of the Roman Empire; and it was not popular that, in the ninth century, when that powerful schism arose which led to the formation of the Greek Church, this was one of the articles in which an irreconcilable difference of opinion prevailed between the new communion and the old; the latter adhering to its established custom of sprinkling infants in baptism, while the former performed the ceremony by true immersion.

The schism which had occasioned such a defection from the Church of Rome did not remove the cause of controversy concerning baptism; but, on the contrary, it seemed to be increased by the intolerable proceedings which were taken against those who refused to be silenced. Driven from the bosom of their own communion, they took refuge in the Church of the Waldenses, in the valley of the Saane; in the same period, joined the disaffected sects in Germany and Switzerland, amongst whom they proved the seeds of their own discord. The zeal with which they laboured to spread their opinions only made them a more conspicuous mark for persecution. Imprisonment, exile, or death; on the fate of those who persisted in their adherence to this heresy. All the territories of the Church were involved in the struggle against the enemies of the faith; but so rapidly was its growth under persecution, that the numbers of those who professed it in the beginning of the 15th century are not known by Moshius or others.

From this time to the commencement of the Reformation, Germany was the chief seat of the Baptist heresy; from whence, following the course of the Rhine, they spread over Holland. Being thus scattered over the greater part of the continent in which the doctrines of the Reformation were
agitated, they availed themselves of the opportunity of gaining attention to their own views. From this great event in the history of the Church, as it is termed, to the close of the sixteenth century, appears to be a new era in the history of baptism. Up to this time the doctrine, though so long and tenaciously maintained, appears not to have bestowed any particular designation upon those who held it. Their existence, as a distinct sect, commenced in Germany, and Luther, unnamed the name of Anabaptists. Unhappily for the success of the doctrine, it was blended with principles so fanatical and lawless, that none who had a respect for the morals and religious polity of society, for the rights of kings and bodies politic, would have permitted it to exist. Nevertheless, though the name of this disorderly sect be known, that it has made its advocates for baptismal immersion averse to the name of Anabaptists. The term Baptist has the advantage of being more etymologically correct than the earlier term of Anabaptist, as baptism is only and accident, and not an essential circumstance. It is only necessary for us to remember, in order to preserve the thread of their history, that those persons who first insisted upon the necessity of baptismal immersion were, and are still, frequently known on the continent by the name of Anabaptists (in German Wiedertaufer), although the opinions now held by them bear a close, if not a complete, resemblance to those of their English brethren who are called Baptists. In Germany, they are known as Spiritual Baptists, for which term they were first used by the Anabaptists to express the idea of a new birth, and in Holland Doopsgezinde. The Monitorium, so-called from Menno Simons, always disclaimed all connexion with the sect of Spiritual Baptists, but the society, though separate, is found in various parts of Germany; in Frisia they are said to amount to 15,000.

(See Anabaptists; and Geschichte der Kirchen—Reformation zu Münster, &c., Münster, 1853.)

The Anabaptists in England before the sixteenth century. Their name then appears among the various sects who were struggling for civil and religious freedom. Their opinions, at this early period, were sufficiently popular to attract the notice of the national establishers of religion. It arose from the fact that, as soon as the Commonwealth was established in 1653, they were denounced as 'detestable heresies utterly to be condemned.' Proclamations followed to banish the Anabaptists from the kingdom; their books were burnt, and several individuals suffered at the stake. The last person who was burnt in England for his religious opinions was a Baptist, of the name of Edward Wightman, of Burton upon Trent: he was not, however, burnt as a Baptist, but for blasphemy and heresy.

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BAR, in music, a perpendicular line drawn through the staff [see Staff], dividing a piece of music into certain equal portions or measures, in order to render its execution uniform. The term derives from the quantity contained in any such portion: thus we say, a bar of six minimas, of six quavers, &c.; and a bar in common time, in three eight time, &c. Sir John Hawkins remarks, that the use of bars is not to be traced higher than the year 1574, and that it was considerably later before their use became general. He conjectures that we are indebted to Henry Lawes for their common use, who published his Dialogues, &c., in 1653. That laborious historian may be right as relates to this country; though, with a work lying before us, Madrigali e Canzonette, printed at Venice, 1548, we find Bonsi, dated Firenze, 1607, in which the bars appear throughout, we cannot bring ourselves to think that nearly half a century elapsed before so obvious an improvement was adopted in England.

The Double Bar marks a conclusion. They are likewise placed at the end of each strain; and if accompanied by dots, &c., they indicate that the part next the side on which the dots appear is to be repeated.

BAR is a term applied, in a court of justice, to an inclosure made with a strong partition of timber, three or four feet high, with the view of preventing the prisoners from escaping in the business of the court from being inimodified by the crowd. It has been supposed to be from the circumstance of the counsel standing there to plead in the causes before them, and to keep the prisoners at a distance from the spectators of the court proceedings, that it was so called. The term gallery, or, as it is termed, the body collectively is denominated the bar; but these terms are more probably to be traced to the arrangements in the Inns of Court. [See Bail and bars and Inns of Court.] The bars are also provided for trial of prisoners, &c., and hence the practice arose of addressing them as the 'prisoners at the bar.' The term bar is similarly applied in the houses of parliament to the breast-high partition which divides the house from the public part of the chamber. The door, above which none but the members and clerks are admitted. To these bars witnesses and persons who have been ordered into custody for breaches of privilege are brought; and counsel stand there when admitted to plead before the respective houses. The Commons go to the bar.
of the House of Lords to hear the king's speech at the opening and close of a session.

BAR, a large town in the province of Bahar in Hindustan. This town is built on the south bank of the Ganges, and is situated in 25° 38' 40" N. lat., and 83° 46' E. long. The houses in the Bar are estimated to amount to 5000 in number; they are all built and the whole town presents a very mean appearance. Bar is a place of considerable trade. (Hamilton's East India Gazetteer.)

BAR, the name of three towns in France of some consequence, distinguished from one another by their situation on the waterways. They are Bar-sur-Aube, Bar-sur-Ognon, otherwise Bar-le-Duc, and Bar-sur-Seine.

Bar-sur-Aube is on the right or north-east bank of the Aube, and on the road from Paris to Bâle, 125 miles S.E. of Paris, 100 m. E. of Toul, and 15 m. of Toul in the department, 48° 15' N. lat., 4° 41' E. long. It is an ancient town, situated at the foot of a tolerably steep and high mountain, by which it is commanded, and stretching agreeably along the banks of the river from which it takes its name. Bar was a place of more importance in former times. Four fairs were held in the year, to which merchants resorted from different parts of Europe. There were separate quarters in the town distinguished as the Hollander quarter, the German quarter, the quarter of the Jews. London bonds were also negociated here, and had a handsome synagogue. At present the trade of the place is in the wines of the neighbourhood, woollen and hessian cloth, serge, harness, and paper. These goods are conveyed to them by the Aube river, which, however, is not navigable above Arcis-sur-Aube, some forty miles below Bar, and the Seine. The manufactures are nails, buttons, tiles, leather, oil, brandy, and vinegar. Several years since a plan was formed for rendering the upper part of the Aube navigable, and for prolonging the communication, by means of a railroad, to the sources of the Seine. (Dupin, Forces Productives de la France.) The church at Bar was collegiate.

The population in 1833 was 3690. Bar stands on the foot of a hill on the site of the ancient city of Bar, which is said to have been destroyed by the Vandals, or rather by the Huns, and to which some have given the name of Florence; but others assert the ruins to have been only those of a fort, for which, however, they appear too extensive. The whole is surrounded by a double ditch, now half filled up, but which seems to have been very deep. Upon the same mountain there was, in after times, a priory called after St. Germain or Germanus (a priory of the ferocious Attila), who assisted in building the church of the priory. In this church remains were deposited.

Under the Merovingian and Carolingian princes, Bar-sur-Aube belonged to the crown. When the third race (that of the Hugues Capet) came to the throne, it was under its own authority, but joined itself in the war with the league of Champagne. Philip V (le Long) sold it, but the inhabitants repurchased it that it might not lose its title of royal town, and it was re-united to the royal domains upon condition that it should neither be sold nor alienated.

Bar-sur-Aube is the seat of a sub-prefecture. Its arrondissement contains, according to some authorities, 660 square miles, and had, in 1832, a population of 41,142 persons. The neighbourhood of the town yields pretty good wine. (Dictionnaire Universel de la France; Exaply, Dictionnaire des Villes, etc.)

During the invasion of France by the allied forces in 1814, a severe conflict took place at Bar-sur-Aube, but it was soon decided in favour of the allies. In a subsequent decisive battle, the town of Ornaux, otherwise Bar-le-Duc, is situated on the river Ornaux (a tributary of the Marne), 132 miles east of Paris by a somewhat circuitous route through Meaux, Châlons-sur-Marne, Vitry-sur-Marine, and St. Dié. 40° 47' 11" N. lat., 5° 39' E. long. It is the capital of the department of the Meuse.

In the tenth century Frederick, Duke of Mosellane, or Upper Lorraine, and brother-in-law of Hugues or Hugh Capet, built a fortress to defend Lorraine from the incursions of the Normans. A manuscript called the "Chroniques de Berrum" (Barum) was given from its situation on the frontier and the purpose of its erection; it became the nucleus of the town of Bar. This castle was subsequently enlarged; but a great part of it was destroyed by fire in 1449, and a further part was demolished in 1676 by order of Louis XIV.

Bar rises on the side of a hill, and is divided into the upper and lower town: the former was, previous to the Revolution, occupied almost exclusively by the nobility; but these emigrated in a body (en masse), and the upper town seemed for a while deserted. In this upper town, rather on the declivity a little below, is the castle of the barons, and the lower town is the seat of trade, and is more extensive than the upper town, occupied in order to the name by the name of the inhabitants may be considered handsonymous. A channel cut from the river conveys the water to several tanneries and mills, and there are three stone bridges over the Orne, which passes through the town. (Exaply, Dictionnaire des Villes, etc.) There are few vestiges of the fortifications remaining.

Before the French Revolution there were many religious establishments at Bar-le-Duc. There were two collegiate churches, that of St. Maxes or Maxime (Maximes) situated at the bottom of the open space in front of the castle, which separates the upper and the lower town, and that of St. Pierre (St. Peter) in the upper town. Of these churches that of St. Maxime is the most ornamental; that of St. Pierre contains some remains in a state of decay, represented with frightful truth. It is on the tomb of a Prince of Orange (who was killed at the siege of St. Dié in 1544), brought from the church of St. Maxime, and is the work of a sculptor of the sixteenth century. The statutes of that of St. Charles, and of Charity. The sisters of St. Charles had a foundation or monastery in the hands of the Benedictines, and afterwards of the monks of St. Antony.

Bar-le-Duc is celebrated for its sweetmeats; it manufactures a great deal of cotton yarn, also some woollen cloths and stuffs, harness, laces, hats, gloves, and leather. Many of the cotton works are moved by water, and each house is a factory.

The river is navigable, and there is a good deal of commerce done in forwarding, by water carriage, the produce of the neighbouring iron works, the wines of the district, the planks of oak and fir which come from the neighbourhood, and the wood which is cut down in the forests of the town. The population in 1833 was 12,542.

The arrondissement of Bar-le-Duc comprehends a space of 560 square miles, and contained, in 1832, a population of 92,344. (Exaply, Dictionnaire des Villes; Dictionnaire Universel de la France depuis le 1773 jusqu'a 1817; Malte Brun, etc.)

For an account of the duchy of Bar, see BARRES, l.e.

Bar-sur-Seine, a town in the department of Aube, on the road from Paris to Troyes. It is in the left bank of the Seine (from which it takes its descriptive appellation) just below the junction of the Ource with the river. 48° 7' N. lat., 4° 25' E. long.

This small place is situated at the foot of a hill, which shelters it on the west; it extends towards the Seine, which, however, is not navigable, and does not become so till it reaches Troyes seven miles below Bar-seine house. The town is well built, and there is a handsome stone bridge over the river. The circumstances are rather like those of the Seine. The population is small, having been, in 1811, only 2249; and the chief trade carried on is in the produce of the neighbouring country; corn, provisions, cattle, and the produce of the iron works. It is on the canal of the town, those of the Seine, and of the Seine and Loir. It was formerly celebrated for its cider, but the trade of the same has been given up. Paper is made at Villeneuville, in the vicinity of the town. It is the seat of a sub-prefecture, with an arrondissement containing, in 1832, a population of 24,840.

Bar-sur-Seine was formerly a much more important place; but it suffered severely in the content between the French and English, in the reign of Edward III. of England. In the war, in 1350, it was burned and many thousands suffocated in the houses. It has been since that time also taken and pillaged in 1433 and 1478. Fortunately for the inhabitants of Bar-sur-Seine, it was not captured again, and never lost.
Revelation it contained a convent of Mathurin or Trinita- 

tian monks, and a monastery of Ursulines; also an hospital, the 

Hôtel Dieu, with twelve beds; it possessed the right of 

sending deputies to the States-General of Burgundy. 

There was formerly a fortress on the hill for the protec- 

tion of the town, but it was raised by the inhabitants in 1598. 

On the hill was a church, built in the latter part of the 

eighteenth century, in which was an image of the Virgin, 

said to have been found in an old oak in a wood a short dis- 

tance from the town. This image drew great crowds of the 

neighbouring peasantry. 

—St procede was the seat of a small county of the same 

name in Burgundy. There is an iron mine, and a quarry 

of excellent marble at Rial es Eaux, in the neighbourhood. 

The county of Bar was under its own counts till 1223, 

when it passed to the Counts of Givry, and then to the 

Dukes of Burgundy; and was again annexed to the dominions 

of the crown by Louis XI. It subsequently passed to the 

houses of Bourbon, Montpensier, and Orleans. (Explan. 

Dictionnaire des Géographes, &c.; Dictionnaire Universel de 

la France, &c.)

BARABA, or BARABINSKAJA STEP. Eastward of the 

Ekaterinburg line of the Ural Mountains, and bet- 

ween the right and left banks of the Yenisey, the 

rivers bound it on the north, west, and east, whilst the 

Altai range skirts it on the south, lies the immense level, 

extending nearly 300 miles from west to east, and 400 miles 

from north to south, which forms the Barabinsk or 

Barabinsky Step. It forms nearly the whole southern 

portion of the Russian province of Tobolsk, and part of the 

south-western districts of the adjoining province of 

Tomsk, and is conjointly visited by some writers to have been in remote ages covered by salt lakes. This part of Siberia is 

in many parts fertile, but full of swamps and salt lakes, the 

latter of which Dobell reports to become low in dry seasons, 

when their waters are so poisonous that numbers of horses 

and cattle die by drinking of them. The Ubs and Iakut 

are the native inhabitants of these Barabinsk or 

Barabinsky Steppes. They are followed and 

surrounded by the Tum, Om, Tartas, Tausus, and Tur, as well as inter- 

mixed with forests of firs and birches, owing to which, in 

some parts, Cocrano tells us, 'it exhibits park scenery.' He 

speaks, likewise, of the central districts of the step as 'pre- 

sented a good idea of cultivation, which increases towards 

the west. The soil is considered so fine that it resists the 

cold in a more than ordinary degree. Considering, too, the 

northern situation of the Barabinsky Step, the excessive 

ranges of climatic, which forty years are estimated to 

be uninhabitable, and the various obstacles which opposed agri- 

culture, it cannot be denied that great praise is due both to 

the government and colonists. At present probably there is 

less danger in traversing it than any other part of the 

Russian empire. It is at night of common occurrence to 

see exiles, whom the fertility of the soil prompted the Imperial 

Catharine to settle upon it in the year 1784; and they and 

their successors have cultivated it to so much advantage, 

that farms and villages have sprung up where, Dobell says, 

'there was scarcely the trace of a human footstep.' It is 

principal inhabited, however, by the Barabinzos, a semi- 

nomad race, of Tartar descent, many of whom have the 

flat face, small and elongated eye, large ears, and black hair 

of the Kalmuck tribe. Their numbers are estimated at 

nearly 30,000, or, according to the language of the country, at 

between 5000 and 6000 bow's and quivers, i.e. full-grown 

males; their religious tenets, with the exception of a few 

converts to Christianity, are those of Mohammedanism. 

In winter the men are often seen in suivre, where 

they wanders from place to place with their flocks and herds (for 

the step abounds in good pastures), pitching their jurtzes, or 

tenent of felt, or erecting a covering of rushes for temporary 

shelter. Few of them are above comparative indigence. 

These are generally divided into those who are [rest of the 

lakes, and partially by cultitating the soil. In the 

central part of the step, Cocrahave observes, 'horses, goats, sheep, 

and cows appeared very abundant; bears and wolves abound in 

the neighbourhood, and approach the step even after being 

engaged in subduing the people; horses, foxes, and ducks are seen 

burnishing about the villages, in all of which there are farm- 

yards.' He is here speaking of the parts which have been 

colonized; and to this report we may add from Dobell, that 

'the horses on this step are small in appearance, resembling 

those of the Yakutia, but full of spirit and vigour, and there 

is no part of Siberia where one is conveyed with so much 

swiftness as over it. We made, whilst on it, from 183 to 

230 versts (170 to 185 miles) in a day and a half, without 

stopping twice a day, an hour and more at each time. Pike 

are taken in large quantities in the lakes, and after being 

dried in the sun, are exported to the adjoining provinces. 

The step contains many islets, or places with markets, and twenty-four villages.

BARABA, or BARABA, is the general name by which 

the natives of Nuba are designated in Egypt, although in their own country they call themselves by the name of Noubes, Knoutes, &c., according to their respective 

tribes. The word Barbary, says Burekhard, is the plural 

of Barb, and apparently derived from Berber, the name of 

a Wadi or district of Upper Nuba, situated on the 

right of the Nile, below the confines of the Alburnus, and 

about the 18th degrees of 25 N. lat.; it comprises four villages—Ankhe, Gaz el Souk, Gaz el 

Funnuy, and El Hassa. The Egyptians, seeing traders of 

the same complexion coming both from Berber and from 

Erim, have applied the same name to both people. 

(Burckhardt's Travels in Nuba.) The inhabitants 

of Berber are Arabs of the tribe of Meyrefal, which tribe 

inhabits several other districts in the neighbourhood. The 

chief of the Meyrefal, called Meck (an abbreviation of 

Meyrefa, i.e. king), is appointed by the Nours of the 

province of Mersin, from among themselves, and is 

named by them from among the king of the Nours of 

Sennar. Cailliaud, in his Voyage a l'Egypte, falls into the mistake of 

calling Barabas or Barabarna exclusively the people of 

Upper Nuba, and translates the word Nauba in an absolute sense to 

to those of Barb or Berber, the chief of the tribe in the 

south of Upper Nuba. He says that Barb is a generic name, 

and that Barb is on the northern frontiers of Barb. 

But in these matters the statements of Cailliaud are very 

decent, and his information, although valuable in 

that respect, must be considered as inferior in accuracy to that 

of Burckhardt.

The four villages of Barb are all about half an hour's 

walk from the Nile, and are situated in the sandy desert on 

the southern edge of the White Nile. One is called Faj al 

mud or of sun-baked bricks. Each habitation consists of a 

large yard, round which are the apartments, all on 

the ground floor. Two of the apartments are generally inhabited 

by the family; a third serves for a storeroom; a fourth for the 

reception of strangers; a fifth is often occupied by public women, 

of whom there is a great number in Barb. The rooms have seldom more than one small 

window; the doors have wooden locks and keys, as in 

most of the villages. The furniture consists in stools, 

the seat of which is made either of reeds or of thin stripes 

of ox leather. The honoured stranger has always one of 

these sofas for his accommodation. Mats made of reeds are 

spread in the other rooms; and over these the natives 

sleep, with all the members of the family, each on his own 

bed, which is sewed together, on which they sleep. The common articles of food are dhourra, milk, and butter. The women prepare the intoxicating drink called bousa, which is made of 

ferment and highly spiced wine; and the people of Barb rear a large quantity of cattle which they 

sell in winter and spring in the mountains of their neighbours the 

Bishareen, who live eastward of Barb, towards the Red 

Sea. Barb is a principal mart for the trade of Sennar 

and other southern countries with Egypt, as the caravan 

pass through it. Many of the Berber people visit Egypt 

for the purpose of trade. They are a handsome race, of 

a red dark-brown colour; the men are taller and stronger 

than the Egyptians. Burckhardt gives a very bad account 

of their morals. Barb is occupied in the rest of 

Nuba, by the arms of the Pasha of Egypt, under whose 

power it now remains. [See NUBIA.]

BARAHAT, the modern capital of the Rajah of Gurwal, 

is situated on the north bank of the Gang, in 30° 45' N. lat. and 78° 32' E. long. This 

town suffered very severely in 1803 from an earthquake, in which 300 of the inhabitants were killed. The effects of this disaster are still visible, although the place is now in a 
much more flourishing state, than it was soon after the 

years after the earthquake. It was described, in 1812, as 

having not a dozen houses standing in a properly habitable 

condition, and as being almost buried in a jungle of rank 

weeds. At a bend of the river, a short distance below 

Barahat, is a hanging bridge of ropes, over which is the 

daylight road to Serinagar, the former capital of the province, from 

3 H 2
Baranya consists of limestone, marble, porphyry, millstone, slate, alum, and coal; the coal is raised near Főd-kirchen, Komó, and Vassav. Some glass is manufactured. The population, which was 183,243 in 1787, 193,313 in 1868, and 213,575 in 1880, is estimated at present at 275,000 of these about 170,000 are Roman Catholics, and about 22,000 Protestants; the remainder are about 1500 Jews and Greeks. Baranya is divided into six circuits, viz.—Főd-kirchen (with the chief town and capital of the province of the same name—in Hungarian, "Főd"), St. Lérenti, Főd-vár, Komó, Baranyáról (Bollyi), Mohóta (chief town name), and Mevsek (Petavá). It contains one free town, 11 market-towns, 341 villages, and 223 prædia, or independent farming colonies. The town and domain occupy an area of 308 square miles, and has 28,000 inhabitants located in 35 villages, &c., and on the improvement of which its late possessed, the Duke of Sax-Zeichen, expended considerable sums of money, now belongs to the Archduke Charles; several colonies of Germans have been settled upon this property, particularly in the vicinity of the beautiful village of Albertsdorf; and the esteemed red wine "Villany" is grown near a village upon it, from which the name is derived. A Roman town, supposed to have been built on the old Baalburg, and on the spot where Sáliche, the Roman station, stood on the west by part of the former of those circles. It contains about 1920 square miles, and presents an agreeable alternation of hills and valleys in the northern and monald districts, from the numerous arms of the Styrian river. The most interesting town in the vale of Főd-kirchen in particular is a delightful country. There is a range of heights also in the east of Baranya, stretching between Monostar and the Danube, to which the name of Sálicia has been given, on account of the numerous remains on the ruins of the large places below them, as well as those about Mohóta and the large swampy island of Mohóta or Margita, which is formed by two arms of the Danube, and comprehended in this circle, and among the most extensive bodies in Hungary. The south-easternmost part of Baranya, more particularly that portion of it which lies next the confines of the Danube and Drave, is covered with moraines. Independently of these great rivers, the province derives much advantage from the waters of the Karasza and Okar or Okor, the former of which flows southwards to Luts, and thence takes a north-easterly direction until it falls into the Danube near Batia; the latter, which is ultimately called the Dravé, runs westward in a line nearly parallel with the Luts and the Okar, and falls into the Drave near Luts. In order to draw off the waters which inundate the lands adjoining the Karasza, Duke Albert of Sax-Zeichen, a considerable landed proprietor in these parts, made a watercourse twenty-two miles in length, and from sixty to one hundred feet wide, which was cut through above 8000 acres of pasture-ground. The natural fertility of Baranya renders it one of the most productive regions in Hungary. Lichtenviertern, indeed, tells us, that out of its whole surface above, 1,200,000 acres of which 229,910 were occupied by vineyards, we learn from another source that 438,970 are cultivated as arable land. The climate, with the exception of that of the swampy plains, is said to be healthy; but the winds and weather are liable to great variations. Baranya grows excellent wheat and most other kinds of grain, as well as much tobacco; but the cultivation of cotton, which was attempted a few years ago, with some success, has been abandoned. It produces considerable quantities of red and white wines: of these, the sort produced on the Villany soil, north of Sáliche, is much prized by the producers of Viszna; and next to it, the growths of Bodoky, Kishé, and Komó, are said to be the best. The woods afford immense crops of timber, and the quantity of wood provided with horned cattle, but scantily with sheep; the breed of horses, particularly that of the Mohóta island, is excellent; the wine is excellent; and the Danube and other rivers afford fish in abundance. Among these, the carp, syrgyen, and tench are most noted. The mineral productions of

Baranya, a province (comitat) in the south-western part of the kingdom of Hungary, lying between 45° 33' and 46° 20' N. lat., and 17° 40' and 19° 15' E. long, bounded on the south by the Drave, on the east by the Danube, on the north by a range of mountains, and on the west by part of the former of those circles. It contains about 1920 square miles, and presents an agreeable alternation of hills and valleys in the northern and monald districts, from the numerous arms of the Styrian river. The most interesting town in the vale of Főd-kirchen in particular is a delightful country. There is a range of heights also in the east of Baranya, stretching between Monostar and the Danube, to which the name of Sálicia has been given, on account of the numerous remains on the ruins of the large places below them, as well as those about Mohóta and the large swampy island of Mohóta or Margita, which is formed by two arms of the Danube, and comprehended in this circle, and among the most extensive bodies in Hungary. The south-easternmost part of Baranya, more particularly that portion of it which lies next the confines of the Danube and Drave, is covered with moraines. Independently of these great rivers, the province derives much advantage from the waters of the Karasza and Okar or Okor, the former of which flows southwards to Luts, and thence takes a north-easterly direction until it falls into the Danube near Batia; the latter, which is ultimately called the Dravé, runs westward in a line nearly parallel with the Luts and the Okar, and falls into the Drave near Luts. In order to draw off the waters which inundate the lands adjoining the Karasza, Duke Albert of Sax-Zeichen, a considerable landed proprietor in these parts, made a watercourse twenty-two miles in length, and from sixty to one hundred feet wide, which was cut through above 8000 acres of pasture-ground. The natural fertility of Baranya renders it one of the most productive regions in Hungary. Lichtenviertern, indeed, tells us, that out of its whole surface above, 1,200,000 acres of which 229,910 were occupied by vineyards, we learn from another source that 438,970 are cultivated as arable land. The climate, with the exception of that of the swampy plains, is said to be healthy; but the winds and weather are liable to great variations. Baranya grows excellent wheat and most other kinds of grain, as well as much tobacco; but the cultivation of cotton, which was attempted a few years ago, with some success, has been abandoned. It produces considerable quantities of red and white wines: of these, the sort produced on the Villany soil, north of Sáliche, is much prized by the producers of Viszna; and next to it, the growths of Bodoky, Kishé, and Komó, are said to be the best. The woods afford immense crops of timber, and the quantity of wood provided with horned cattle, but scantily with sheep; the breed of horses, particularly that of the Mohóta island, is excellent; the wine is excellent; and the Danube and other rivers afford fish in abundance. Among these, the carp, syrgyen, and tench are most noted. The mineral productions of
tions of the travels of Benjamin of Tudela, a Hebrew writer of the twelfth century. Two Latin translations of this work, one by Arnae Moutanca and the other by Constantin Lemm- genius, were found to be defective, and Baratier wrote his in French, and added to it copious notes, and eight dissertations at the end, which are more interesting than the text itself. The subjects of these dissertations are the following:—1. On the person of Benjamin and his work. 2. Baratier's second dissertation is on the catalogus of the kings and cities which Benjamin did not visit, and his title describes, 'from Spain unto China,' but that he acted merely as a compiler of the accounts he gathered from others, and especially from his Christian contemporaries, is evident. 3. On the origin and their succession. 4. On the government of the Jews in Judaea. 5. On the authority of the chiefs of the Jews after their dispersion in various countries. Dissertations 5, 6, and 7 are on the kingdoms and empires where the Jews have pretended that they possessed in various parts of the world, and their stories and romances on the subject. 8. On the ten tribes of Israel, and the place of their transport. These are all curious subjects to be treated by a child eleven years old. He finished his work in about six months in 1732, but it was not published till 1734, in two volumes, small 8vo, Amsterdam. After this Baratier turned his attention to theological studies, and especially to the Gospels and their early Councils. After some time he undertook to refute Samuel Cereillus of Leiden, a Universalist and divine, who had written a book styled Artemonius. The title of Baratier's reply will show the subject of the controversy:—Anti-Artemonius, seu multum Evangelii S. Johan- niani securitas, seu eadem ecclesia, vel etiam de Artemonius, Neo-Photistano, Criticam vindicatum atque illustratum; cui in fine accedit dissertatio de dialogis Iubiles, sulgo Theodoro tributis. Nuremberg, 1735. Frederic Wil- lia, King of Prussia, having appointed Baratier's father to the French Protestant church at Steinit, the family left Schwabach in the beginning of 1735. In passing through Halle, young Baratier, whose fame had long before reached that university, was made Master of Arts, after an- dening his examinations and sustaining a public disputation. On his arrival at Berlin the king, who was then there, struck up a lighted with his conversation. He had him repeatedly at the palace, and made him presents of books and money. The Royal Society of Sciences at Berlin named Baratier one of its members. The king urged upon both father and son the propriety of the latter applying himself to some regular profession, and he suggested that of the law. In order to facilitate this he altered the destination of the elder Baratier, and appointed him to the French church at Halle, and granted him a grant of 1,000 thalers a year during the time he was to study at that university. The family therefore returned to Halle in April, 1735. During the next four years Baratier attended the courses of the four law professors, in canon, civil, and public law. He followed his legal studies with a most of duty, without particular inclination for them, with the exception of public law, in which he seemed to take an interest. He at the same time found leisure to pursue his more favourite studies. He had begun a History of the Heresies of the Anti- Trinitarians, which he left in MS. Several dissertations also on various subjects of philology, history, and antiquities, were inserted in the 'Bibliotheca Germanica.' The last work he published was on the succession of the early bishops of Rome: Description Chronicorum Antiquissimam Episcoporum Romanorum, indu Petro sueque ad Vicem. 4to. Utrecht, 1740. This was the beginning of a great work which he designed on the history of the first centuries of the Church. He also began a History of the Thirty Years' War. Baratier's chest was naturally weak; a cold which he took brought on an obstinate cough, and in October, 1739, he spat blood. He passed the following winter, which was a severe one, but without his being able to be entirely relieved from the idea of death, and looked on the world as a stage upon which every one was called to act his part for an allotted period. He also felt at times the unsatisfactory nature and uncertainty of human knowledge, and often expressed his disappointment at finding so little to be depended upon in so many works which he had read: the more he strove after truth the farther it seemed to recede from him. His morals were pure, his habits frugal and unostentatious, and his manners such as would have lived to the last with his father and mother, to whom he was tenderly attached. Though not fond of play and amusements, he was cheerful and lively. The life of this modest scholar was written by Mr. Forney, from the materials furnished by his father. A German translation was published at Frankfurt and Leipzig in 1735. At the end is a long catalogue of all the works which he left in MS, mostly unfinished.
their horses. Yet notwithstanding such violent exercise, very little care is afterwards taken of the horses; still they are said to be long-lived and remarkably free from diseases. Such destempers as faries and goblins are unknown; spavin and mullender are of very rare occurrence.

The Moors, however, do feed their horses upon chopped straw and barley, which they eat out of a nose-bag put over their heads, as is the custom in England; in spring they are chiefly fed upon grass. In the stables there are two iron pins driven into the ground, one before and the other behind, to which the fore and hind legs are respectively fastened in such a manner as to prevent the animal from moving more than a foot either backwards or forwards; thus they are fast to the front pin, which is provided with a ring for that purpose, and out their provender off the ground. Formerly it was the practice for the Moors, in shoeing their horses, to cut off the front part of the hoof; a flat shoe of a triangular shape was then put on, with one of the sides in front, and the other two nearly meeting in an acute angle behind the frog: this unnatural mode of disfiguring these noble animals was put an end to about the year 1799, by an order of the Emperor Bonaparte, who commanded that the fore and hind hoofs of all his subjects should, upon pain of death, be shod with shoes having round soles. The Berbers and Kabyles, the aboriginal inhabitants of the country between the Sahara and the shores of the Mediterranean, and who are now for the most part removed to the mountainous and most inaccessible districts of North Africa, never shoe their horses at all; yet so hardy are these animals, and so much tougher are their hoofs than those of our own horses, that Windhous, who, in the beginning of the last century, accompanied a British embassy to the court of the Emperor of Morocco, who has left an interesting account of his journey, assures us that he saw one of them which had travelled fifty miles without resting, and that though he had been twice during the journey obliged to cross a mountain full of rocks, yet it was not perceived that he had lost the least crack in his hoof, nor did he make any complaint of his feet.

There is a particular breed of the noble barbs, called Shrubah Errech (literally Wind-sucker), or the Desert Horse, which is only found among the tribes of the Sahara, and which, when transported beyond the sands of the Desert, soon languishes and dies. The fleetness, temperature, and endurance of this animal, if we are to believe half the stories related by travellers, almost surpass the bounds of credibility. When thou shalt meet a Shrubah Errech says a Moorish proverb, and say to his rider: Salam Alkum; before he can answer, Alkum Salam, he will be far from thee, for his speed is like the whirlwind. In the assistance of this animal, or of the Horse, or Desert Camel, the Arab, in an emergency, can cross the Sahara in short time; but so amazingly rapid is the rate of travelling, that, as we are credited informed, the riders are obliged to have bandages tied round the horse's neck and in the pectoral part of the air from impeding their respiration. At the conclusion of the journey, also, it is said that their stomachs are so much relaxed, as to be unable for some time to retain either solid or liquid food. The Shrubah Errech, however, is neither as useful nor economical an animal as the desert camel; it is true that his speed is greater, but he is neither so abstemious nor so enduring. The horse will travel for fifteen or twenty successive days, and requires but a handful of dry dates in the morning, and a supply of water every third day; upon which he appears to frequent extraordinary emergencies, he can travel for six or seven days without this important element: but the desert horse must have a feed of camel's milk once a day, and for this purpose there must be a couple of female camels wherever he goes. Camel's milk is his only sustenance; and indeed it would be difficult to find him any other in the parched and deserts which he inhabits: he does not like wheat, hay, straw, or any other kind of food, and if forced to live upon these, he loses all his valuable qualities. In his native country the desert horse is principally employed for the purpose of hunting the ostrich and gazelle, at which sport he is amazingly expert, nor is there any other being that can match the animals in speed. When brought to Morocco, as in sometimes after these cases, and under the change of soil and climate, Alkaid Omar ben Daud, says Jackson in his Account of the Empire of Marocco, when governor of Mogador, had two Saharan horses in his stables; but finding it inconvenient to feed them constantly upon camel's milk, he resolved to try them on the usual food given to Barbary horses. He accordingly had their food gradually changed, and, in a short time, fed them altogether with barley, and occasionally with wheat and straw; they grew fat, and looked better than before, but they lost their speed, and soon afterwards died, so that nature had designed them to be appropriated solely to that district where the extensive plains render these eminently necessary.

Barbican, or Barbican, in ancient fortifications, was usually a small round tower for the station of an advanced guard, placed just before the outward gate of the castle-yard or bailey. (King's Sequel to his Odes on the Ancient Castles, Arch. vol. vi. p. 303.) Wherefore Speiser, in the Fairy Queen, b. ii.

Within the barican a porter sits,
Day and night daily keeping watch and ward.

[Weelmage Bar and Barbican, York. From "The History and Antiquities of the Fortifications in the City of York," by Messrs. Lockwood and Costa, 1803.]

Grose (Antiq. of England and Wales, vol. 1, p. 35) calls it the first member of an ancient castle. He says it seems to have had no positive place, except that it was always an outwork. The term is still preserved in the names of different castles, as at Framlingham and Canterbury Castles, and a small stone-work covering the gate of Bishop Castle, in Suffolk, is called the barbacan. The two round towers at the angles of the barbacan of York were probably connected by a low breastwork over the gate-way. Messrs. Lockwood and Costa consider the whole of the building which projects fifty-six feet from the gate called Weelmage, to be the barbacan.

In town or towns the barbacan was a watch tower, placed at some important point of the circumvallation. It had sometimes a ditch and drawbridge of its own. (Carmichael, Hist. Antiq. vol. ii. p. 2.) The street of London called Barbican received its appellation from its vicinity to a work of this sort attached to the same gate, which was visible within the last half-century. It is not known that Ben Jonson uses the term in his Epithalamion (Works, vol. viii. p. 35).—

Thus did the almighty eye

What kind of working man

He had no brains, or said he had no barbacan.
BAR

BAR

long narrow opening left in the walls, to drain off the water from a terrace or platfor-
m

The first English word is uncertain. Spelman de-


 BARBACANAGUIM, or BARBICANGE, was mo-


BARBADOS is the most eastern of the Carri
bbean Islands, and the most antient of the British settlements in those seas. The exact date of its discovery is unknown; but no mention of it occurs prior to 1600. In all proba-
tility it was first seen by the report reaching their voyages to and from South America; but the rude aspect of the islan

d, without inhabitants, and destitute of every thing necessary for human accommodation, was ill-calculated to induce them, already well satisfied with their continental possessions, to make any attempt to settle there. With the hope of obtaining immediate supplies of gold and silver, they overlooked its commercial situation. That their dis-

evry might, however, be useful to themselves and others touching there, they planted some vegetables and fruits, and from the Portuguese it derived its name, which it is supposed to have obtained from the Indian fig-trees growing on the island, and which were called by them Barbados, or boarded.

Many of the planters had been touched at the islan
d was the Olive, in 1605, on her return from Guines:

For some years Barbadoes appears to have been no more than a part of, till a favor from the report reaching, Sir William
court of London, he formed the project of

The Earl of Carlisle, who proposed to erect all the Carri
bbean Islands into a patriline, asked the king to

The result of the contest was uncertain; but the

The Earl of Pembroke, who obtained, in 1628, from Charles I., a grant of the island, during the temporary

The king secured the reversion of Pembroke’s patent; and the

with the privilege to the company of appointing their own

A site of Bermuda, Charles Wolseley, was appointed, with such other persons as the company should appoint, with the

Their care was to build houses for their stores, &c., which obtained the name of Bridgetown; and Wolseley, having a council, summoned by the colonists sent out by Castlereagh, was selected by them this time in a flourishing condition. They made their appearance: but utterly disclaimed all dependence on Lord

This nobleman appointed Sir William Tufton, commander-in-chief of the island, who, on his arrival in December, 1629, appointed a council, issued grants for nearly 16,000 acres of land, confirmed the already granted, and divided the country under cultivation into six parishes. He was unexpectedly superseded by Captain Hawley, who appears to have used some unfair means to prejudice Lord Carlisle against Tufton; but that nobleman, suspecting that the appointment had been made to destroy the prosperity of the island, recalled Hawley, and in 1645 the government devolved on Philip Bell, who devoted his whole attention to the improvement of the internal admi-

The civil war and religious dissections which were raging in England contributed greatly to the rapid population of the island, and many royalist families found an asylum in it. The leeward part seems to have been first and best settled. The Charlestown, a city that was afterwards called the original

,

the quarters of the colony, his claims, amid the confusion which reigned at

In 1647 increased to 50,000, and the value of land had of course

An unrestricted intercourse existed with the Dutch very favourable to the Barbadians, but money was so scarce, that barter of commodities was often neces-
sary, and the products of the soil were resorted to, and all fees and emoluments were paid in kind.

When and whence the sugar-cane was first imported is uncertain, but in 1647 Ligon speaks of the art of making sugar as a business recently begun and little understood; and it is to the same year that the first attempt was made to introduce the culture of the plant, and the manufacture of this valuable staple.

In 1663 the Earl of Carlisle, son and heir of the original

 sentiments, and of the free enjoyment of the soil, which was levied as much against the growing prosperity of the Dutch as against the planters, gave rise to the Na-

The Barbarians being for the most part seminaires, were attached to the council, and the authority of the Parliament, and protest against the

Sir George Ayscue, who commanded the Parliamentary Forces, found great difficulty in bringing the island under subjection, and he would probably have failed, had it not been for a party less sanguine about their public principles than their
B A R

private interests, who, fearing the destruction of their property, deserted the royal cause, and thus compelled Lord Willoughby to resign his commission. After the sound of the succes-

sions of the island, in March, 1652, the Government was placed in the hands of the victorious admiral, who soon re-
signed it, preferring to go in search of other conquests; and the Barbadoes enjoyed tranquility till the Restoration.

In consequence of the importations of Negroes, by the expeditions to Jamaica, tend to diminish the population of Barbadoes, as many opulent planters removed to this island, where land was procured with less difficulty.

Notwithstanding the prohibitory act, the Barbadoes had continued to maintain a friendly intercourse with the Dutch, which from motives of policy had been connived at by the government. Their consternation and resentment were naturallyroused at finding a measure which had been inflicted on them as a punishment for disloyalty, confirmed by the king, on his restoration; and, to add to their calamities, they were alarmed as to the legality of the tenure of their estates. Lord Willoughby having only eight or nine years of his lease unexpired, applied to the king for a renewal of his commission, intending to enforce his claims under the proprietary grant. The planters, perceiving that they were held by these two powerful noblemen as tenants-at-will, appealed to his Majesty; they pleaded their being innocent subjects, and that their estates had been surreptitiously obtained, and proposed that the king should permit them to commence a suit in his name, but at their own expense, in the Court of Exchequer, to set the grant aside, or that he would resume the sovereignty of the island, and sell their estates, amounting to 100000l. to the planters by course of law. The matter was laid before the Privy Council, who decided that Lord Carlisle's patent, having been obtained by a misrepresentation of facts, was null.

The Earl of Carlisle, dying in the interim, had bequeathed his West India property to the Earl of Kinnoull. His creditors brought in demands to the amount of 80000l.; besides which the heirs of the Earl of Marlborough claimed the same. Considerations were urged that these estates had been surreptitiously obtained, and that Lord Willoughby also demanded the moiety of profits which should accrue during the unexpired term of his lease. To satisfy these claims, Mr. Kendall, on the part of the planters, proposed an internal tax of 44 per cent. on the exportation of all commodities of native produce, the surplus to be at the king's disposal. These terms were readily acceded to; and arrangements having been made for the satisfaction of all claimants, the proprietary government went on to the island. At the same time the crown directed Mr. Kendall to make such an offer, and Lord Willoughby was sent back to Barbadoes, where, after much argument, entreaty, and menace, he succeeded in obtaining its confirmation by the Assembly in August, 1663.

Notwithstanding the concessions against the Dutch, Admiral De Ruyter was sent to possession of Barbadoes, but, after an ineffectual attempt, he was obliged to abandon the enterprise. Lord Willoughby resolved to return the visit, and an expedition fitted out for this purpose, but he took St. Lucia, but perished in a hurricane on Guada-

looue, and the command devolved on his brother. In 1665 a destructive fire laid nearly all Bridgetown in ashes. In 1669 Barbadoes was made the head-quarters of a more extensive government called the Windward Islands, which was defined to include all the islands to windward of Guada-

looue; that and the other islands of the Caribbean chain having been formed into a distinct command under the title of the West India Company.

In August, 1675, Barbadoes was visited with a most awful hurricane: neither tree nor house was left standing, except a few sheltered by some hill or cliff, and the whole face of the country exhibited one scene of desolation, while the coast was strewn with wrecks, and many lives were lost at sea and on shore. This was thought by the inhabitants a favourable moment to obtain relief from their oppressive impost, by petitioning his majesty to that effect, but he was deaf both to their complaints and entreaties. Instead of granting this, they were subjected to a severe tax by the establishment of the Royal African Company in 1674, for the exclusive supply of negroes to the colonies; and in 1685 parliament laid a tax of two shillings per cwt. on mus-

cuplets planters removed to this island, where land was procured with less difficulty.

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loss of human life was estimated at 3000, and the destruction of property at 1,018,928l. sterling. Those who escaped were exposed to dangers scarcely less imminent, from the deprivation of their internal resources, the prospect of famine presented itself, and the slaves, instead of endeavoring to save, were actively engaged in plundering the vessels, with the intent to extend the exodus. In consequence of this, the country was doled out to the sufferers of Barbadoes; the city of the British parliament; the city of Dublin raised 20,000l., and several liberal donations were made by individuals.

On the 11th of October, 1785, the following singular phenomenon alarmed the inhabitants: several deep fissures appeared in the earth, and some small temnents sunk to a considerable depth; the mansion-house and plantation of the proprietor of the estate all collapsed, and were buried with the soil from the neighbouring heights; and in the course of the night the face of the district was completely changed. Some cocoa-nut trees and even a windmill were gradually removed many hundreds yards from their original position.

Towards the close of the 18th century laws were passed to encourage the growth of cotton on the island, and for punishing with death persons convicted of cutting and clipping premises where the growth is planted. The negroes induced the ministry to adopt the scheme of raising negro regiments, a measure which was received with great dissatisfaction throughout the West Indies, and severely commented on in the assembly of Barbadoes, where several resolutions were passed on the subject. The success, and the actual effect of these resolutions, is the complete emancipation of the negroes; nevertheless, the islanders showed proofs of their loyalty in collecting upwards of 15,000l. towards the war against the French.

The island is subject to periodical hurricanes, by which it has frequently suffered. On the 11th of August, 1831, it was visited by one of the most dreadful and devastating nature, surpassing even that of 1780. The appearance on the preceding evening indicated unsettled weather; the wind was high, and about ten o'clock there fell a shower of rain, succeeded by a calm. At midnight came on a strong squall, which was followed by heavy rain and a smart breeze from the N.E.; the wind how increased, and before four o'clock, a tornado of gale, but moderated for a short time; it then suddenly became violent again, and at three o'clock was a perfect hurricane. From this hour to five it raged with unparalleled violence, with a rush of winds, the houses were leveled to the ground or unroofed, the custom-house was blown down, all the churches damaged, and those of St. Paul's and St. Mary's were entirely destroyed. The Government House (called Pilgrim) was unroofed, and the governor only saved himself by taking refuge in a cellar. The largest trees were torn up from the roots or broken like reeds. The wind now veered to east, back to north, and again to north-west. Again it shifted and blew fiercely from east, veered to south, and again to east, blowing through very strong gusts and renewed violence, accompanied by torrents of rain, which continued about two hours. Daylight discovered to the terrified inhabitants a most wretched and deplorable scene; the fields were completely changed into a desert, and neither corn, corn, provisions, nor trees were left standing, with the partial exception of some well-sheltered spots. The loss of life was estimated at 5000 souls; and the destruction of property is incalculable. This dreadful hurricane was felt also at St. Vincent's, Dominica, and other islands, but without severity.

In pursuance of an act passed in the Imperial Parliament for the abolition of colonial slavery, the 1st of August, 1834 (the day appointed), was held at Barbadoes a grand meeting of the inhabitants, attended by the places of worship, and the most perfect tranquility prevailed. In April, 1834, the Assembly passed a bill to abolish the obnoxious four and a half per cent, duties, as a compensation for the loss sustained by the planters by the Abolition Act. This bill, however, remains yet without the royal sanction.

In this island there is a class of people called the 'Tenantry.' By the laws of the colony every estate is obliged to maintain a certain number of whites, in proportion to the estate, as a kind of indefeasible right for life in a house and garden on the estate, one person to each sixty acres. The militia is chiefly composed of them; and with that exception, they live in a state of complete idleness.

The constituent parts of the legislative body of Barbadoes are the first, the governor, which is appointed by and responsible to the crown; second, the council, a body of twelve, appointed by the king; and, third, the assembly, which consists of twenty-two representatives of the people.

The chief governor is captain-general, chancellor, and vice-admiral; he has the appointment of the militia and other military offices in the colony, the coroners, captains of the port, and various other civil offices; and before the island was made a bishopric in 1824, he collated to all livings, and took probates of oaths. Justices of the peace are appointed by him, with the consent of the council, and cannot be removed without their concurrence. As chancellor he appoints the two masters in chancery and the solicitor, and he has the appointment of the great seal, and presides in the courts of error and equity; but as the council are judges in both these courts, his vote is of no more weight than that of any other member. As vice-admiral he is entitled to the rights of Jesuit, fishing, and the like, and the executive government has a veto on any law. In his absence the president of the council is authorized to administer the government with nearly similar powers.

The council is supposed to stand in the same rank in the colonies as the peersage in England, but as the tenure of their office depends in some measure on the will of the governor, they do not possess the same independence; and although freedom of discussion is expressly granted, they are extremely circumstanced by the presence of the governor. With them may originate any bill unconnected with levies or the disposal of public money; they also stand towards the governor in the same relation as the privy council does to the king of Great Britain.

The Assembly is entirely composed of the representatives of the people, annually elected, two members being sent by each parish. The qualifications for an elector and a member are the same; he must be free and naturalized, subject of twenty-one years of age, professing the Christian religion, and owning ten acres of land, or a house of the yearly value of 10l. sterling. On their meeting they take the state oaths, and proceed to the choice of their speaker.

The judicature consists of five courts of common pleas, &c., each of which there is a judge and four assistants; they commence their sittings in January, and continue them by adjournment every four weeks till September; from these courts appeals lie to the Privy Council and governor and council.

The Court of Exchequer is held by a chief baron and four puisne barons; a court of grand sessions of oyer and terminer, gaol delivery, and general sessions of the peace, is held twice a year; the chief justice is a barrister.

The governor, is always a member of the council and a judge of one of the courts of common pleas; six freeholders are summoned from each parish, from among whom are selected the grand and petty juries. The sessions of the court of common pleas possesses power, in all criminal cases, even to the life of the offender; in inferior cases the governor may remit the punishment, and even in capital cases he may reprieve till his pleasure be known. A great discretion is given to the governor, that is, to the generally planters, or merchants, who have not been educated for the bar, and are for the most part without the knowledge requisite to qualify them for such an office.

Barbadoes, quite distinct from the Caribbean coast, being eighty miles to the eastward of St. Vincent, the nearest island. It lies N.W. and S.E., and is of an oval form, fifteen miles long, and ten broad in the widest part. Nature has fortified its coast, which is so inaccessible, that the indigenous offshoots of sages fifty ftons, in consequence of a coral reef which runs off all the eastern and northern side of the island; the other parts of the coast have been fortified at a great expense. The island contains 106,470 acres, nearly all of which are under cultivation: the soil
In the lowlands is black, and somewhat reddish in the parts where it is shallow, on the hills chalky, marly, and near the sea-shore, sandy; the rock which supplies this soil is a tertiary shell limestone, for an account of which see Nugent's Sketch of the Geology ..., in Transact. Geol. Soc. 1841. There are no appearances of volcanic action. The black mould is suited to the sugar-cane, which is as productive here as in any island of the West Indies, except St. Kitt's; the soil is, however, considered to be exhausted by manuring. The destruction of the woods, though it renders the country more healthful, has diminished the quantity of rain, and thereby been detrimental to the planters. Barbadoes still consumes a considerable amount of English manufactures. Of the produce of the island is sugar, but rum, ginger, cotton, and aloes form considerable items.

The surface of the island is comparatively low, with gently-undulating hills. The climate, though warm, is perhaps as healthy as any part of the West Indies, and the heat is greatly alleviated by the trade-wind, which constantly blows over the island; indeed, the longevity of its inhabitants is a proof of its salubrit.y. But the awful hurricanes with which it has from time to time been visited render the value of property very uncertain. There are several bituminous springs, some of which furnish the green tar that once supplied the want of pitch and lamp-oil. Two remnants of the virgin forest still remain, near one of which is the celebrated 'Great creche,' or parson, a huge tree, covered with the constant bubbling, it appears to be in a state of obulition; if an ignited match or candle be passed over its surface, the air bursts into flame and shoots upwards in a quivering column of light, caused doubtless by a perpetual escape of phlogiston. One tree may still be seen of the tree which is supposed to have given name to the island; it is covered in an extraordinary manner with great mats of twisted tendrils, strongly resembling a beard.

Bridgetown, the capital, is situated on Carabyl Bay, at the south-west end of the island; it is two miles in length, and half a mile wide. Though irregularly built, it contains many very handsome houses, and a large square adorned with a statue of Nelson, as well as the midst of considerable houses in the West Indies. It contains a cathedral, which is spacious and plain, its towers scarcely rising above the roof, for fear of hurricanes, for which reason also the churches are without steeples. Besides the churches, there are several chapels, and a great number of schools for whites and blacks. The council and assembly meet and hold their sittings in the same building with the common prison; and here also the various law-courts are held. There are some very learned and scientific gentlemen in this place, and some good libraries. A college was founded by General O'Brien, but the funds having been ill-applied, what was intended as a university for young men has dwindled into a mere school for a few boys. Altogether there are on the island twenty-three schools, for both whites and blacks.

There are besides three other towns of smaller note, called Ostin'a, St. James', and Speight's: the two former are more populous. Speight's town is, however, a place of considerable importance. The population of the island in 1839, including whites, free coloured people, and slaves, amounted to 91,887 souls.

The principal and indeed almost the only anchorage is in Carlisle Bay, off Bridgetown, where the merchant-vessels load and disembark cargo. From the other parts of the island in small vessels called droghers. Carlisle Bay is quite open to the westward, but sheltered by a projecting tongue of land, called Needham's Point, from the trade-wind and the Atlantic swell; and except in case of a hurricane may be considered a secure port. There is a small bay also off Ostin'a, where vessels occasionally anchor as they do off Speight's town.

There are two small streams, besides the Mole which runs into Bridgetown, and the others, as well as the inland rivers, are supplied with water; but fire-wood is expensive. Stock, vegetables, and fruit are plentiful. The total value of imports into the colony in 1832 was 461,200l, sterling money, exclusive of the part of which consisted of roodfish, grain, and flour, and the remaining imports were of manufactured goods and plantation stores, chiefly from the United Kingdom. Of the exports, sugar is the staple, upwards of 24 millions of pounds, or nearly 11,800 tons, having been shipped from the island in 1832. The remaining exports during that year consisted of arrow-root, coffee, cotton, ginger, stannines, rum, and small quantities of coconuts, legwood, aloes, and other articles.

The salary of the governor, including has pay as commander of the forces, and an allowance for table money and servants, amounts to £900l per annum. Of this amount 365l. 13s. 4d. is paid by the colony, and the remainder by the home government.

Bridgetown is in 13° 17' N. lat., and 54° 41' W. long. (Poyer's History of Barbadoes; Columbian Navigator; Bryan Edwards' History of the West Islands, &c.)

BARBADOS CHERRY. (See Malpighia.)

BARBADOS FLOWER FENCE. (See Porciana.)

BARBARIAN. The Greek term Hellenizer (barbarian) appears originally to have been applied to languages, signifying a mode of speech which the barbarians used; and it was perhaps in this invariable word intended to represent a confused and indistinct sound. (See Bland, u. 867; and Strabo, cited and illustrated in the Philadelphia Museum, vol. i. p. 611.) Barbarian, it will be observed, is entirely lost in the same syllable as Grecian. Afterwards, however, when all the races and states of Greece had obtained a common name, it obtained a general negative sense, and expressed all persons who were not Greeks. (See Thucyd. i. 3.) At the same time, as the Greeks made no distinction between themselves and the barbarians, it was shown to be in superio in natural capacity to their neighbours, the word in question obtained an accessory sense of inferiority both in cultivation and in nature faculty, and thus implied something more than the term Livic, or foreigner. At first the terms barbarian and Grecian were used for the inhabitants of Greece, but at length this distinction had been signified all who were not Romans or Greeks. In the middle ages, after the fall of the Western empire, it was applied to the Teutonic races who overran the countries of Europe, who did not adopt the Latin tongue, and though they used the same codes of law as an appellation of the Germans as opposed to the Romans. At a later period it was applied to the Moors, and thus an extensive tract on the north of Africa was designated the Barbarian. Barbarian, in modern languages, means a person in a low state of civilization, without any reference to the place of his birth, so that the native of any country might be said to be in a state of barbarism. The word has therefore lost its primitive and precise barbarians; but it is sometimes used exclusively in that which was once its accessory and subordinate sense of crude and uncivilized.

BARBAROSSA. (See Frederick I., Emperor of Germany.)

BARBAROSSA, ARODDJE, was born in the island of Metelin (Mytilene), about the year 1474, of Christian parents. His father, who followed the trade of a potter, had a family of twelve children. When about twenty years of age, went on board a Turkish privateer, and, at the same time, the Mohammedan faith, when he converted the Turkish name of Aroddje, or Oruche. Having served for several years, during which he distinguished himself by his bravery and intelligence, he was appointed captain of a galley, which was fitted out by some speculators at Constantinople, for the purpose of cruising in the Archipelago against the merchant-vessels of nations at war with the empire. The vessel was a three-decked, armed vessel, and the captain Aroddje, surnamed de' Barbaro, or Captain Aroddje. After having cruised for some time in the Ionian, he told the crew, which was chiefly composed of men of his own choice, that they would have a better chance and be more at liberty, instead of cruising in the Archipelago under the eyes of the Sultan, to cruise in the wide Mediterranean, and to take their stations on the coast of Africa. The practice of privateering on a large scale was not common at that time among the Turks. He obtained the cheerful assent of his men to his intention, and, wherever he took them, he was told that his father was dead, and had left his children in great poverty. Aroddje bestowed some relief on his subjects, and was well received by the reigning Bey. Arriving at Goletta, the harbour of Tunis, the great city of Africa, he was well received by the reigning Bey. At that time all the Moorish states of Barbary were at peace.
under apprehensions from the power of Spain. Arcojde having sailed in his own galliot for the coast of Italy, fell in, with a large Papal galley, richly laden, and bound from Genoa to Civitavecchia. The crew of the galliots not expecting to meet with a Turkish corsair in those seas, took no precautions, and let Arcojde approach closer to them, when he at once gave the order to board. The galliot was the subject of a ship much larger than his own. He then manned the prize with his own men and steered towards the other galliot, which allowed itself to be surprised in like manner. Arcojde returned round the coast of Tunis with his two prizes. His fame now rose high throughout the coasts of the Mediterranean, and many Turkish and Moorish adventurers applied to serve under him. In the following year he surprised and took a large Spanish ship with money and provisions, and the garrison of Golea, as his first quarters; there he disposed of his prizes, paying a tithe to the Bey of Tunis. Having built several more galliots, he assembled a squadron of eight good ships, two of which were commanded by his brothers. He was successful in his cruises, and in the course of a few years he grew enormously rich. The Christian sailors, whose terror he had become, gave him the name of Barbarossa, from the colour of his beard, which was red; others say from a resemblance to the mosque of Arcojde while being a familiar Turkish appellation of respect as well as a tranchment, answering to our 'Father.' In 1510 the Bey of Tunis gave him the government of the island of Jerbi, which had been attacked shortly before by a Spanish expedition, and Arcojde returned to Tunis. On the death of Arcojde's brother, lost his life in this expedition. Arcojde now reigned over the greater part of the present state of Algiers, and as far west as the frontiers of the kingdom of Morocco. The latter part of his reign was marked by a rapid success of such an enterprising chief, demanded reinforcements from Spain, and Charles V., in 1518, sent 10,000 men under the Marquis de Comares, with orders to drive Arcojde out of Tripolitania. Arcojde had hardly 1500 men then dependent upon him, and marched against him, and he went out of Tripolitania by night with his trusty Turks and his treasurers, in hopes of being able to reach Algiers. He was closely pursued by the Spaniards till he reached the borders of the river Mahlig, about twenty-five miles north-east of Tripolitania, where he ordered all the treasures to be scattered on the way, in hopes of retarding the pursuit of the enemy. Meantime he crossed the river with the advanced party of his men, but the Spaniards fell on the main body in the rear before they could escape, and Arcojde hearing the cries of his old companions calling to him for assistance, resolutely turned back and re-crossed the river, determined to fight and share their fate. He hastily formed them on a raising ground, and fought desperately at their head. In the fight he was successful, but at the end of the day was killed in the midst of heaps of the slain. Few of his men found their way to Algiers to carry the dismal news to his brother whom he had left in charge of the town. Arcojde, or Barbarossa, as he was called, reigned forty-four years, eight months. He fell, fourteen years of which he had spent on the coast of Barbary. He left no children. Merciless as he was to his enemies or rivals, and totally unprincipled and reckless in the pursuit of his ambitious schemes, he was not wantonly cruel. He seems to have been really belov'd and respected by his attendants, dependants, and fellow-soldiers. Father Haeo, who was at Algiers in the latter part of the same century, renders full justice to Barbarossa's personal qualities, and he had his information from those who had been amongst his youth about Arcojde's person, and had known him intimately. The quality which most distinguished him, and which ensured his success, was his extraordinary activity and rapidity of movements, which surprised his enemies before they were prepared for it. He was one of the most remarkable adventurers that has ever appeared.

(Haeo, Topografía de Historia de Ár: Marmol, Descripción de África: Morgan, History of Algiers: Laugier, History of the Barbary Coast.)
same fate as the former. Many ships were lost in a storm, and a great number of Spaniards were taken prisoners on board. Hadher, finding himself insecure on his throne, made an offer of the sovereignty of Algiers to Selim, on condition of being himself appointed pasha or viceroy, and of receiving a reinforcement of troops from the sultan. Selim accepted the offer, and sent him in 1519 his firmnus of appointment as Pacha or Regent of Algiers, and a body of troops and supplies. Aolger, which was subject to the high dominion of the Porte, and the Turkish supremacy over the nations was firmly established. In 1530, Hadher, after many attempts, took, at last, the little fort on the island opposite Algiers, and several other important places. Casblancas, in the possession of the French envoy, who was on board Barbarossa's admiral's ship. The Turks sailed next for the Roman coast, and anchored before Otranto, to the great alarm of the people of Rome; but the Pope opened negotiations, and the French, by the good sense of the subject, were spared. Barbarossa then sailed for Mar¶nels, where he was received with great honour by the governor, Count of Englefin. A French squadron of forty ships having joined the Turks, they sailed together out of Mar¶nel on the 5th of August, 1534, to attack the town of Nice, which belonged to the Duke of Savoy. People saw with astonishment the Ottoman crescent and the liberty of France combined against a Christian city, on whose ramparts burned a white cross, erected by capitation, but the castle continued to defend itself until the report of Doria's approach induced Barbarossa to raise the siege. He, however, plundered the town in the night, against the articles of the capitulation, burnt part of the houses, and carried off the cattle of the Turks, the French and the Turks quarrelled, and Barbarossa resolved to leave his allies and return to the Levant. On his way back he plundered the islands of Elba and Giglio, with those of Procida and Ischia, the coast of Policastro, the island of Lipari, the town of Cariati in Calabria, and other places. More than 12,000 Christian slaves, of all ages and sexes, says the historian Segni, were crowded into the holds of his galleys, most of whom falling sick through confinement, thirst, and hunger, perished. 'Diabolic, wrote Valesio, were dead.' Barbarossa returned to Constantinople in 1534, and he does not seem to have gone to sea any more afterwards. He died in 1536, and was buried at Beukhalah, near the entrance of the Black Sea, where he had a country-house, and where his tomb was still to be seen not many years since. (Heriod and Morgan above quoted; Robertson's History of Charles V., and the other historians of that time.)

L'AUBARRY, a general and rather vague denomination which has been adopted by Europeans to designate the northern part of Africa, which extends along the coast of the Mediterranean and as far inland as the great desert, from the frontier of Egypt to the Atlantic Ocean. It is divided into five principal districts or provinces, namely, Morocco, and the dioceses of Algiers, Tuns, and Tripoli, with their respective dependencies. The appellation of Barbary appears to have been derived from Berber, by which the Arabs designated the people who inhabited the countries before the Saracen conquest. [See Berber.] Such at least seems to be the derivation assumed by the Arab historians and geographers, who use the word Barbary or Berber in speaking of North Africa. Others derive Barbary from Ber, or Bar, the old name of the country, or Bar, from Baris, the name of a city in the country. Barbary is divided into the following districts or provinces:—

BAR

The city of Baris, or the ancient Baris, is the capital of the province of Baris, and is the ancient Phœnician city of Baris, which is now the town of Beukhalah. The city is situated on a low, sandy, and uninhabited islet. The island is divided into two parts, the one being inhabited by the Libyans, and the other by the Libyans of the North. The Libyans of the North are the inhabitants of North Libya, and the Libyans of South Libya, and in this passage we should understand Egypt from Libya. He describes (chap. i.) 156-154) was very minutely the nations or tribes that lived in his time in Libya. The Libyans were divided into the kingdom of Egypt, and that of Egypt and the Mediterranean, proceeding from Egypt westward along the coast, were the Adynemachs, whose languages were Egyptian, but whose dress was Libyan; they also lived along the coast of Cyrenaica as far as Perbaris. Next to them were the Garamantes, who extended as far as the island of Ceuta, and were called Geclena. For the rest of the

BAR

same fate as the former. Many ships were lost in a storm, and a great number of Spaniards were taken prisoners on board. Hadher, finding himself insecure on his throne, made an offer of the sovereignty of Algiers to Selim, on condition of being himself appointed pasha or viceroy, and of receiving a reinforcement of troops from the sultan. Selim accepted the offer, and sent him in 1519 his firmnus of appointment as Pacha or Regent of Algiers, and a body of troops and supplies. Aolger, which was subject to the high dominion of the Porte, and the Turkish supremacy over the nations was firmly established. In 1530, Hadher, after many attempts, took, at last, the little fort on the island opposite Algiers, and several other important places. Casblancas, in the possession of the French envoy, who was on board Barbarossa's admiral's ship. The Turks sailed next for the Roman coast, and anchored before Otranto, to the great alarm of the people of Rome; but the Pope opened negotiations, and the French, by the good sense of the subject, were spared. Barbarossa then sailed for Mar¶nels, where he was received with great honour by the governor, Count of Englefin. A French squadron of forty ships having joined the Turks, they sailed together out of Mar¶nel on the 5th of August, 1534, to attack the town of Nice, which belonged to the Duke of Savoy. People saw with astonishment the Ottoman crescent and the liberty of France combined against a Christian city, on whose ramparts burned a white cross, erected by capitation, but the castle continued to defend itself until the report of Doria's approach induced Barbarossa to raise the siege. He, however, plundered the town in the night, against the articles of the capitulation, burnt part of the houses, and carried off the cattle of the Turks, the French and the Turks quarrelled, and Barbarossa resolved to leave his allies and return to the Levant. On his way back he plundered the islands of Elba and Giglio, with those of Procida and Ischia, the coast of Policastro, the island of Lipari, the town of Cariati in Calabria, and other places. More than 12,000 Christian slaves, of all ages and sexes, says the historian Segni, were crowded into the holds of his galleys, most of whom falling sick through confinement, thirst, and hunger, perished. 'Diabolic, wrote Valesio, were dead.' Barbarossa returned to Constantinople in 1534, and he does not seem to have gone to sea any more afterwards. He died in 1536, and was buried at Beukhalah, near the entrance of the Black Sea, where he had a country-house, and where his tomb was still to be seen not many years since. (Heriod and Morgan above quoted; Robertson's History of Charles V., and the other historians of that time.)

L'AUBARRY, a general and rather vague denomination which has been adopted by Europeans to designate the northern part of Africa, which extends along the coast of the Mediterranean and as far inland as the great desert, from the frontier of Egypt to the Atlantic Ocean. It is divided into five principal districts or provinces, namely, Morocco, and the dioceses of Algiers, Tuns, and Tripoli, with their respective dependencies. The appellation of Barbary appears to have been derived from Berber, by which the Arabs designated the people who inhabited the countries before the Saracen conquest. [See Berber.] Such at least seems to be the derivation assumed by the Arab historians and geographers, who use the word Barbary or Berber in speaking of North Africa. Others derive Barbary from Ber, or Bar, the old name of the country, or Bar, from Baris, the name of a city in the country. Barbary is divided into the following districts or provinces:—

BAR

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The island of Platea, now Bomba, was on the coast of the
Gulagranum, but was possessed by the Greeks of Cyrene.
The Cyrenaica, who were a Greek colony, and whose coun-
try was the most elevated and most fertile district in this
part of Libya, were possessed of an extent of coast of
about 400 miles, and a west coast which was
were surrounded by Libyan nomadic tribes, the Abylas-
to the south, and the Auschis and the Cabales to the
west. Next came the safely the most powerful of all
Libyans; they called Libya along the
eastern shores of the great Syrta, and likewise along the
southern or innermost coast, having occupied the land
of the Fayli, a tribe who were said to have been de-
stroyed by the suffocating wind of the desert. The Mass
were conquering the Cyrenaica, and that the eastern
western coast of the great Syrta. They occupied the
present territory of Mesurata and Lebda as far as where
Tripoli stands. To them, the Lotophagi extended to the
shores of the smaller rivers, including the island of Mes-
ma, the modern Gerbi. West of the Lotophagi came the
Maclyche, who spread from the south-west extremity of the
less Syrta to the lake Tritonis (the present lake Lowdwe,
in the southern extremity of the territory of Tunisia), and
along the southern-east coast of the same. On the opposite
northern side of the lake were the Ausein, the last of the
nomadic tribes of Libya mentioned by Herodotus. The
Marxus, their northern neighbours, along the coast, called
themselves descendants of the Trojans: they were hus-
banders of the desert. These were the
westward Herodotus describes as mountainous, covered
with forests, and abounding in wild animals, among which
he enumerates the elephant (iv. 171), while the country of
the Ausei was entirely arid and flat. North of the Marxus Herodotus places the Zauneus,
farther still the Zygantes, who appear to have been the
same as the Zeugantites of subsequent geographers,
being the inhabitants of a province immediately adjoining
Carthage; provided we take it that the modern Zygantina is in
ference to Glyntus. (See Herod. iv. 194. v. 174. ed.
Schweg.) Herodotus's account of the maritime provinces of
Libya ends with the Zygantes. Of interior Libya he men-
ions the people of Aigilia, or the modern Audjelah, and
farther west the Garamantes, who used to hunt after the
Ethiopian Troglodytes, the swift-wits of all men known,
who live upon lizards, snakes, and other reptiles, and who
speak a language different from all other people, and which
resembles the cry of the bat. This also places the Gindanes
south of the Lotophagi. The Gindanes are probably the
people of Ghadames. He says that ten days west of the
Garamantes were the Alatranes, the individuals of which
had no name. Ten days beyond the Alatranes, he says,
there was a large body of salt, the leading Zygantes in pre-
1. 'I know,' he adds, 'the people who live in the high lands as far as the
Atlantic, but not those who live beyond.' In another passage
he says that Mount Atlas is fifty days journey west of the
coast. Between these two statements are the high summits of the Atlas of Mauritania, near Marocco,
gives a tolerably correct indication of the distance. He-
rodotus sums up his account of Libya by saying that it is in-
habited by four races, as far as I know, two indigenous and
two foreign. The indigenous are the Libyans to the north
and the Ethiopians to the south; and the foreign are the
Greeks and the Phoenicians. It must be observed that
besides the Carthaginians, who are believed to have been
originally a mixed race of Semites and Greeks, the inhabi-
tants on the coast of Mauritania, as mentioned by Strabo
and others. Of the origin of the Libyans, the aborigines of
North Africa, we know nothing. The Arabian historians
pretend that they were driven from Yemen which came
cross the deserts under one Melek Efriki (Ibn Alarar
quoted by Marmol) in very remote times. Of the Car-
thaginian empire Herodotus does not speak, probably be-
cause Carthage was less immediately connected with his
main interest, as it was in Western Mauritania, rather
many other of his episodes; but though Carthage had not
attained its greatest height of power in the time of He-
rodotus, it was a powerful state when Xerxes invaded
Greece. (Herod. vi. 165.) To the west of Carthage was
the city of Oea, on the promontory of Numidia, which occupied the space of the present
province of Algiers; the eastern part of it belonged to the Massylia
and the western part to the Massagetae, as far as the great
river Molochath. This river divided it from Mauritania, the
country of the Mauri or Maurusri, who extended to the
columns of Hercules; a numerous and wealthy people, says
Strabo, who were said to be Indians who had come over
with Hercules. South of the Mauri Strabo places the
Imeruari and the Tubarani, and farther south the
Ethiopians. Beyond Mount Atlas to the south-east the
country now called Beled el jereed was inhabited by the
Germulis. The Garamantes appear to have been the people
of Fezaz, although Poemey and other geographers have
placed them much farther to the west and south of
Mauritania.

The Romans, after having subdued Carthage, extended
their dominion gradually over the whole of Northern Africa.
The Romans, after a short war with Jugurtha, Cyrene was afterwards bequeathed
by its king, Apion, to the Roman republic. Mauritania
continued longer under its native kings, and it was only in
the reign of Claudius that it was finally subdued by Suso-
tonius Paulinus and united to the Roman Empire, forming
two provinces: Mauritania Tingitana, so called from Tingis,
it capital, which was the original Mauritania, extended
westward as far as the river Molochath; Mauritania Cas-
sesiana, which was the country of the Massayili or Western
Numidia, extended westward from the Molochath to the
river Ampasaga. To the east of the Ampasaga lay the
country of the Massylia, which retained its name of
Numidia, and extended to the east as far as the river Tusca.
The province of Tripolitania was formed of the
former territory of Carthage, which extended as far as the
great Syrta. To the eastward of the Syrta was the
province of the Cyrenaica, the easternmost part of which,
the city of Marmarora, bovediered over Egypt. Such was the
political division of Northern Africa under the
Roman Empire.

Under the weak and profligate reign of Honorius, the
Vandals who had settled themselves in southern Spain
in 418, a.d., then migrated into Africa. A large body of
Grecian troops were invited to that conquest by Count Boniface, the Roman
governor, who had revolted against Honorius. The Vandal
conquered the greater part of Northern Africa, where
they committed the most horrible cruelties, and, in great
measure, cleared the country of its former inhabitants.
The successors of Genseric reigned over Africa for about
a century till the time of Justinian, who sent Belisarius to
re-conquer the country. Belisarius defeated the Vandals,
and made their king, Gelimer, a prisoner, and
from that time subject to the Eastern Empire till about the
middle of the seventh century, when the Saracens from
Egypt invaded, first Cyreneaca, and afterwards Africa Pro-
prica. Okba ben Nufi, the general of the Caliph Moawiya,
wanted to conquer Africa and Numidia. In the year 670 he laid the foundation of Kairuan. Okba crossed the Atlas into Guttela, where he was treacherously
killed; his tomb was still seen in the time of Shaw, near the
bank of the Adjejede river, at the village of Okba. Fresh
hopes were entertained of subjugation of Africa from the
East completed the subjugation of the whole country. Under the Caliph Walid I. (705-715), Musa was sent into Africa
with a large army, and he subdued the whole of Mauritania,
landing away the Spanish Goths who had, till then, kept
possession of the coasts. Tariq, Musa's lieutenant, carried
the war into Spain, defeated Roderic, and laid the founda-
tion of the Arab dominion in Spain. Northern Africa was
now entirely subject to the Arabs, and the natives adopted
Arabic as their language, and did not adopt the
Christian religion. The power of the Moors could not long remain quietly under the dominion of the
distant caliphs; and the various governors and local chiefs
aspired to make themselves independent. The revolution which raised the house of Abbas to the caliphate, in the
middle of the eighth century, and the subsequent separa-
tion of Spain from their empire, led to the breaking up of
the power of the Eastern Saracens in Africa. Edris, a
descentant of Fatima, founded an independent kingdom
in Ghera. The second dynasty of the Khazars was
Aglabides established an independent dynasty at Kairuan
in Eastern Africa. Later in the ninth century, the Zeirides
made themselves independent in Tunisia and the
surrounding
country. Frequent wars occurred between them and the supreme
emirs of Cordova, the Abbaside Caliphs of Bagdad, and the Fatimide Caliphs of Egypt. About the middle of the
eleventh century, the Morbita or Almoravides, a religious
neet, originally from Arabia, but settled in the southern parts of Mauritania, effected a revolution in that country, overthrew the Zergies, and founded a new dynasty. They built the city of Marocco, which became their capital; and thence they spread over the whole of Mauritania, and also into Spain, where their emir, Yussef, defeated both Christians and Moors who opposed him, and established his dominion at Cordova, a.d. 1087. Cordovas and Marocco were both capitals of the empire of the Almoravides. The dynasty was so powerful and extensive that in its turn by the Almohades, another sect which rose likewise in the southern regions of Mauritania, and whose chief, Abdulmumien, took Marocco in 1147, and conquered the rest of the country. Marocco, therefore, lost Spain in the first part of the thirteenth century, and not long after were driven away from Marocco by the Beni Merinid, who were, in their turn, dispossessed by the Beni Ouladates, about the year 1470. In the early part of the following century, a fresh adventurer, Mohammed Ben Hamed, who styled himself Sherif el Husheni, and preted to be of Mohamet's lineage, started up among the Berbers of Daraah south of the Atlas, and took Marocco. His son took Fez in 1544, and founded the dynasty of the Sherifs, which has reigned over the empire of Marocco ever since. While these events took place in Mauritania, the eastern provinces of North Africa were divided into a number of petty principalities. There were kings of Tlemsen, of Tenes, of Bocjieyah, of Tunis, Kairuan, &c. The two branches of the western part of the Almohades were the state of Algiers and the brother, Khair-eddin, acknowledged the supremacy of the Sultan from Tunis and the little protectorate of the desert. [See BARBAROSSA.] Soon after, the sultan established, in a like manner, his supremacy over Tunis, which state, or regency, includes the Africa Propria, or country of the former Carthaginians. The country east of the little Sicilian can be divided into the gros Moroccon, including the Cyrenaica proper, was formed, about 1550, into a distinct pachalikt, which took its name from Tripoli, the chief town, and which extends to the frontiers of Egypt. Thus the great divisions of the country retain still, though under different names, the same as at the time of the Romans. The regencies of Barbary, although nominally subject to, are, in fact, independent of, the Porte. The head of each is absolute sovereign in his dominions. As for the empire of Marocco, the sultan has never claimed any authority over it. For a further description of each of these four divisions, and of the country in general, see ALGIERI, MAROCCO, TRIPOLI, TUNIS, AND ATLAS.

The region which we call Barbary is called by the Arabs of the southern coast, Moghreb, Moghrebins, or people Moghrebins. The language of the Moors is called the Western Arabic, and differs from the Arabic of Egypt and Syria. Some of the Arab tribes of the interior, however, are said to have retained their original language, the Kowor. The coast, however, is inhabited by races that are not essentially Barbary are, 1. The Moors, who live in or near the towns, and who are a very mixed race: many of them are descended from those who were driven out of Spain in the sixteenth and seventeenth centuries. 2. The Arabs, who are mostly nomad, and tend their flocks on the plains of the interior. 3. The Berbers, or Kabyles as they are called in Algiers and Tunis, who chiefly inhabit the mountains and the valleys of the Atlas. 4. The Blacks, from Soudan, who are the Jews of the Jews, or Jews of the country. 5. The Turks, who are the militia of the three regencies, and have children by Moorish wives, who are called Koulouks.

The length of Barbary from east to west may be reckoned about 1100 miles. The eastern frontier is the king's regency of Tripoli, to the coast of Moghadoor, in Marocco. The breadth of the country varies greatly. It is greatest in Marocco, where the inhabited districts, in the provinces of Darrach and Snaa, appear to extend southward to about the 29th degree of latitude. The breadth of Cyrenaica, the extremest point of the same empire at Cyreni is 55° 50′, giving, therefore, a breadth from north to south of about 600 miles. In the meridian of Algiers, the inhabited country is about a quarter of the 22d degree N. lat., is that of the district of the Beni Merini. The southernmost parts of the inhabited country of Tunis are nearly under the same parallel. In the regency of Tri-

poli, the tract of the inhabited land is much narrowed by the great indention of the coast, produced by the Syren. where, especially at the innermost recess of the great Syren, the sands of the great desert almost touch the sea. But at various distances, in a southern direction, are the great belts of waste, several cases, such as the desert of Ghadamis, and Audjelah, which, being dependencies of the regency of Tri-

poli, must be considered as parts of Barbary. The eastern limits of Barbary may be traced by a line drawn from the coast of Barbary to the 28th degree N. longi-

ning in a southern direction between the cases of Audjelah and that of Siwah or Ammon, which last is considered as a dependency of Egypt.

AMON. A different construction of Barbary: all the tribes even of Barbary are said to profess it, at least nominally. A great number of Jews are found in all the principal towns, many of them carrying on various branches of profitable trade. The blacks, who are very numerous in Barbary, and who are not originally from Barbary, are of the same color as the Great Desert. If, as they may be said to have any religion at all, Pagana. (Marmol, Description de Afrique; Princess, de Bellio Vandaliaco; Shaw's Travels in Barbary, &c.)

BARBAIROU, a district in Aragon, bordering on the north upon the Pyrenees, on the south upon the deserts of Zarargora, on the east upon that of Benaussa, and on the west upon that of Huiscua. It is a narrow strip or tract of land, extending from north to south as far as Benaussa, and from thence becoming gradually narrower, to the number of one-third the south-east. Its natural desert is into mountainous and plain country: the latter, however, is not entirely free from elevations. The mountaneous part is one of the highest in the Pyrenean chain, and is covered with larches and pines. The plains are watered by the river of Monte Perdido, after leaving the gorge of the mountains, flows through a spacious plain in a south-east direction, and, after receiving several streams in its course, falls into the Ebro near Masequenza. The territory of Barba is in the Pyrenees, in the mountains of Alva, in the valley of Gistain there is a good mine of coal. The mountainous part comprises the valleys of Pueblos and Solana. The level country is one of the most fertile and best cultivated in Aragon, and enjoys the benefit of ser-

gul. The villages are as at the foot of the mountains, and the rich pastures of the district feed numerous herds of cattle. There are also several manufactories of silk ribbons, of hemp, hemp and woolen stuffs, of soap, of earthenware, and of the tanning of leather. The district contains 210 towns, vill-

ages, and hamlets.

BARBAIROU, the capital of the district, is situated on the banks of the small river Vero, which divides into two parts, united by stone bridges. The climate is rather cold, but salubrious, and the territory very fertile. Barba is divided into several small districts, which is in the town. The chapter consists of the bishop, seventeen canons, and a number of chaplains. Barba was in the power of the Moors till 1065, when Bencer Bemires, the second king of Aragon, restored it to their ban-

Barnaud, Anna Letitia, to whom the cause of rational education was very near, was a member of the Barba
er individual of our own time, was the eldest child and only daughter of the Rev. John Aikin, D.D., and the mother of John Aikin, M.D. Mrs. Aikin was born on the 27th of June, 1743, at the village of Kilwarth, in Louth, where her father was a headmaster of the private school. She enjoyed the advantage of having for her mother a lady of polished manners, cultivated taste, and sound principles, who devoted herself to the formation of her daughter's character with a degree of interest and care rarely exhibited by her contemporaries among the leading authors in the original languages. This was done by her father for some time, but he at length yielded.

From her childhood Mrs. Aikin manifested a precociousness of intellect. At a very early age she could recite what was in that day considered to be a course of school learning for a young lady, and exhibited a disposition to adopt and improve the ideas of the great authors in the original languages. This was done by her father for some time, but he at length yielded.

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The success of the school at Palgrave remained unimpaired, but the unceasing call for mental exertion on the part of the conductors which its duties required, so much injured their health, that after eleven years of unremitting labour an interval of complete relaxation became necessary; and Mrs. Barbauld accompanied her husband in the autumn of 1785 to Switzerland, and afterwards to the south of France. In the following year they returned to England, and early in 1787 took up their residence at Hampstead, where for several years Mr. Barbauld received a few pupils. In 1789 Mrs. Barbauld published an address to the successful opposers of the repeal of the Corporation and Test Acts. In the following year was written her pastoral epistle to Mr. Wilberforce on the rejection of the bill for abolishing the slave trade. In 1792 she published "Glossen and Hymns into the Expediency and Propriety of Public or Social Worship;" and in 1793 she produced a work of a kind very unusual for a female—a sermon, entitled The Sins of Government Sins of the Nation. In all these Mrs. Barbauld showed those powers of mind, that ardent love for civil and religious liberty, and that genuine and practical piety by which her whole life was distinguished, and for which her memory will long be held in reverence. In particular her removal of Mr. Wilberforce's sermon, was noticed as being one of the best and most eloquent and yet sober appeals in favour of public worship that has ever appeared.

In the note of Dr. Aikin, inserted in our first volume, we have mentioned that his sister supplied several contributions to his excellent work "Evenings at Home." These contributions were fourteen in number. It would be useless to distinguish them here, or to say more concerning them than that they are equal in merit to the other parts of the volumes. The same may be said of the present essay. In a previous number, Mrs. Barbauld had been "furnished with a hint with regard to her Hymns for Children". In 1775 Mrs. Barbauld published a small volume, entitled Devotional Pieces compiled from the Psalms of David, with Thoughts on the Devotional Psalms, and on Sects and Establishments. About the same time also she wrote that admirable little volume, her Early Lessons, a publication which has ever since been a standard work, and through frequent re-issues of the little volume was universally admired. This little volume was written for the use of one of her nephews, who had been adopted by Mr. Barbauld and herself in consequence of their having no child of their own. In the present day, when parents are in possession of the laub,
The Barbel, or barbel of the Nile, is so like the common barbel of our European rivers, that it might readily be mistaken at first sight for that fish; but a little observation will show that it is proportionally shorter and thicker, on both back and arch, and it is particularly distinguished by having the first three rays of the dorsal fin so closely united as to have the appearance of one single spine. The upper jaw projects considerably beyond the under, the eyes and nostrils are large and round, the caudal and anal fins of the colour of salmon, and the lateral line composed of oblong points, and nearly bearing the body horizontally. The body is moderately thick, and the tail is of a bright cerise, and are of considerable size, which has made some people imagine this fish to be the lepotos of the Greeks, a name, the last and oxyrhynchos, was considered sacred by the Egyptians, and the source of the Nile; it grows to a large size, sometimes weighing, according to Bruce's statement, upwards of seventy pounds, and is described as being a firm, delicate, and well-flavoured fish. The traveller just mentioned gives an interesting account of the methods which the Egyptians employ to catch the barbel of the biny, and for preserving it alive till they require to dress or have an opportunity of disposing of it. Having kneaded together a quantity of oil, clay, flour, and honey, they chopped straw or other similar material to make the different parts of the composition, the whole was formed into a mass, in size and appearance resembling a Christmas cheese, round the sides of which, in different parts, we stuck small pieces of dates saturated in honey. Seven or eight stout reeds were then inserted, each bound with strong whip-cord, and basted with a date steeped in honey concealed in the centre of the cake. The fisherman then, before his inflated goatkin, piddles himself, and hurries off into the middle and deepest part of the stream, where he casting some of the cords attached to the hooks on shore, and fastens each of them separately to the branch of a palm stuck firmly into the ground, and having a small bell suspended from the top of it. He then goes off about his work, which, upon occasion, is a long one, as the fish are calibrated in the hearing of the bells. In a short time the action of the water begins to dissolve the mass of paste at the bottom of the river, and the small pieces of dates getting detached from the mass are carried hy the current and swallowed by the binnies. These naturally ascend the stream in the direction from which they perceive their favourite food to proceed, and having arrived at the mass of composition, begin, as is their custom, to root and bore into it, all the while tossing and turning in the water. As soon as the fisherman sees the bell, he turns down the river, and氪看一下 the binnies. In his struggles to escape he necessarily pulls the line and the palm branch to which it is made fast on shore, when the ringing-bell, agitated by the motion of the stream, causes the fisherman to come as speedily as possible to the spot. The fisherman, says Bruce, "runs immediately to the bell, and finding thereby the particular line, he seizes it, and fish in, but does not kill him: the hook being large, it generally catches the fish just as it is completely boiled longer than the other. He then pulls the hook over the water, and puts a strong iron ring through his jaw, ties a few yards of cord to it, and returning the fish to the river. fastens him to the shore: so he does with the rest, for very rarely is there a single hook empty. Those who want to fish at Girg, a large town opposite, or at Achenmus itself, can either as a fish-market, and every man takes the quantity he wants, buying them alive. Fish, when dead, do not keep in Egypt, which makes that precaution necessary. They bought, in the course of which fully during the day, the fisherman had ten or twelve of them fastened to the shore, all of which he pulled out and showed as.

BARBER-SURGEONS. In former times, both in England and other countries, the art of surgery and the art of shaving went hand in hand. The surgeons of Paris, in France, see the Dictio. des Origines, tom. i. p. 169. They were separated from the barbers-perruquers in the times of Louis XIV., and made a distinct corporation. The barbers of London were appointed to be山庄 by Edward IV. in 1461, and at that time were the only persons who exercised surgery; but afterwards others, the practice of that art, formed themselves into a medical association, which they called the Company of Surgeons of London. The two companies united and a body incorporate, by the name of the Barber and Surgeons of London. This act however at some undefined date was performed.
separated the two crafts. The barbers were not to practise surgery further than drawing of teeth; and the surgeons were strictly prohibited from exercising 'the fast or craft of barbering or shaving. The surgeons were allowed yearly to take, at their discretion, the bodies of four persons after execution for felony, 'for their further and better knowledge, instruction, insight, learning, and experience in the said science or faculty of surgery; and they were moreover ordered to have 'an open sign on the street-side where they shewed them, so that all the king's liege people passing might know at all times whither to resort for remedies in time of their necessity.' Four governors or masters, two of them surgeons, the other two barbers, were to officiate jointly, so that each might see that the respective members of the two crafts exercised their callings in the city agreeably to the spirit of the act.

Holben commemorated the granting of the charter to the barber-surgeons in a picture which is still preserved at their hall in Monkwell-street.

The privileges of this company were confirmed in various subsequent charters, the last bearing date the 15th of April, 6th Charles I.

By the year 1745 it was discovered that the two arts which compose the company professed were foreign to and independent of each other. The barbers and the surgeons were accordingly separated by act of parliament, 18th Geo. II., and made two distinct corporations.


BARBERINI, an Italian family, originally from Florence, which was raised to a high rank among the Roman nobility in consequence of the elevation of one of its members, Cardinal Maffeo Barberini, to the papal chair in 1623, when he assumed the name of Urban VIII. [See Urban VIII.] Urban had three nephews, two of whom were made cardinals, and the third prefect of Rome. Under the long pontificate of these three brothers, Barberini attained great power at Rome, where they held the chief business of the government in their hands; and they had also considerable influence in foreign courts. They became possessors of the fief of Palestrina, which had formerly belonged to the Colonna family; and they aspiring also to the possession of the duchy of Castro and Ronciglione, in the province called the Patrimony of St. Peter, near Rome, which belonged to the Furness family, who had received it as a fief from Pope Paul III. This led to a war between the pope and Edward Furness, duke of Parma, who was joined by the dukes of Modena and of Tuscany, and by the republic of Venice. Cardinal Antonio Barberini commanded the papal troops, and showed considerable skill and personal courage. There was sharp fighting at Monastalli, near Ferrara, and on the Modenese territory, in 1643. In the following year peace was made by the interposition of France, and Castro was restored to the duke of Parma. After Urban's death in 1644, Innocent X., who succeeded him, and who partly owed his elevation to the influence of the two cardinals Barberini, instituted proceedings against them for peculation and abuse of power during their uncle's pontificate. The Barberini took refuge in France, where they were favourably received by Cardinal Mazarin, through whose influence Cardinal Antonio Barberini, the eldest brother, was made archbishop of Rheims and great almoner of France in 1645. In 1649 Innocent X. again admitted the Barberini to his favour, and they returned to Rome, where all judicial proceedings against them were dropped. Luceria Barberini, niece of the two cardinals, married, in 1655, Francis I. d'Este, duke of Modena. The Barberini have ever since ranked among the first Roman nobility, several individuals of their name having been successively raised to the rank of cardinals, while the lay representative of the family bears the title of Roman prince, and is possesses of estates at Palestrina, Albano, and in other parts of the Roman state. In the palace of the Barberini at Palestrina is the celebrated six-Temp. of Perseus, by Veronese and Princenote. [See Palestrina.] The palace Barberini at Rome is a vast structure, built by Bernini, and gives its name to the square before it. It contains a museum, a garden, and a large collection of works of art collected by Cardinal Francesco Barberini, one of the nephews of Urban VIII. The library is rich in valuable MSS.; its catalogue was printed at Rome in 1681, in 3 vols. folio. There is also a fine vine, with extensive gardens, belonging to the same family, at Rome, near the Therm of Diocletian, and another in the neighbourhood of Albano.

BARBERINI VASE. [See Portland Vase.]

BARBERY. [See Barberis.]

BARBETS (Zoology), the English name for a family of birds of the order Scansores, or climbers, Les Barbus of the French, and the genus Buceo of Brisson and Linneus. They are distinguished by their large conical beak, which appears swollen, as it were, or puffed out at the sides of its base, and is beard (whence their name) with five tufts of stiff bristles directed forwards. One of these tufts is behind each nostril, one on either side of the lower mandible, and the fifth is under the symphysis.

Their short wings and heavy proportions do not admit of swift flight; and their prey consists of insects and wild birds, which they surprise, and also of fruits. Their nests are generally built in the holes of trees. The barbets are now divided into the three following subgenera:

Subgenus Pogonias.

Pogonias (Miller) is furnished with one or two strong teeth on each side of the upper mandible, and the beard is very strong. Africa and the Indies are the places where they are found, according to Cuvier, who says that the species of this subgenus feed more on fruits than any of the others. Pogonias histrurus (Swainson), an African species, is a good example.

Subgenus Histrurus.

Pogonias histrurus is about seven inches in length. Chin, part of the throat, head and neck, deep black, changing to dark-brown, on the back, wings, and tail. The upper plumage spotted, and marked with sulphurous. Under plumage, greenish sulphur, closely spotted with blackish. The setaceous feathers of the breast form the predominant character of this species.

Subgenus Bucco.

Bucco (Cuvier), Capote (Vieillot), embraces the true barbets, which have the conical bill slightly compressed and a little elevated in the middle. Their plumage is, generally speaking, grey; and they are to be found both in Africa and Asia. During the breeding season they go in pairs, and congregate in large flocks during the remainder of the year. The Buff-faced Barbet (Bucco Lathami) affords an example of the true barbets. The length is six inches. The bill pale, beset with bristles at the base, which are longer than the bill itself; the forehead, chin, and sides of the head, round the eyes, of a dull buff-colour; upper parts of the head and body dark olive-green; under parts lighter. Wings the same as the upper parts; quills dusky with greenish edges. Tail dusky and short. legs and claws yellow.

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Latham refers to a specimen in the British Museum, and says that its native place is uncertain.

Subgenus Tumatia.

Tumatia (Cuvier), the name by which one of these birds is known in Brazil according to Marcgrave, comprises those species which have the bill a little more elongated and compressed, and slightly curved at the extremity. The great head, short tail, and large bill of these birds, as they are called, give them, as Cuvier observes, an air of stupidity, which their melancholy and solitary habits do not lessen. They are said to feed entirely on insects, and all the recorded species are American. In Paraguay, according to Azara, they are called chacaruras. Temminck affixes the name Captito to this subgenus.

Tumatia macrocephala (Swainson), which that author obtained from southern Brazil, and which he is disposed to consider a variety of the greater pied barbet of Latham, will give a good idea of the character of these birds.

Swainson, who had good opportunities of observing them (and such opportunities that zealous zoologist never neglected), gives, in his Zoological Illustrations, the following interesting account of their habits. *There is something very grotesque in the appearance of all the Puff-birds; their habits, in a state of nature, are no less singular. They frequent open cultivated spots near habitations, always perching on the withered branches of a low tree; when they will sit nearly motionless for hours, unless, indeed, they descry some luckless insect passing near them, as which they immediately dart, returning again to the identical perch they had just left, and which they will sometimes frequent for months. At such times the disproportionate size of the head is rendered more conspicuous by the bird running on feathers so as to appear not unlike a puff-ball; hence the general name they have received from the English-speaking inhabitants in Brazil, of which vast country all the species I believe, are natives. When frighted, this form is suddenly changed by the feathers lying quite flat. They are very confiding, and will often take their stations within a foot of the window. The two sexes are generally seen each other, and often on the same tree.*

The length of this species is about eight inches. Plumage black and white, except the belly and vent, which are rufous with buff.*

BARBEYRAC JEAN, an eminent jurist, was born at Berners in Lower Languedoc, on the 15th of March 1674. His parents were Calvinists, and upon the revolution of the edict of Nantes, in 1686, retired from France, and took up their residence at Lausanne. The young Barbevrac was educated. His father designed him for the church; but in early life his taste decidedly led him to historical and juridical studies, and he devoted himself to the faculty of jurisprudence. In 1697 he became master of the college at Berne, where he remained about fourteen years. During this period he published in periodical repositories of France and Holland several small treatises upon subjects connected with natural and international law. The first edition of his Traité du Jugement was published in 1717, and received much attention, and upon which his early attention was principally founded. A posthumous edition of this work, considerably enlarged and improved, was brought out at Amsterdam in 1747. This second edition appears to be particularly noticed: it consists of an elegant dissertation on a trifling subject, abounding in a refined and unusual kind of learning, and applying at great length the rules of religion, morals, and law, to establish the proposition that play, or games in general, and in particular those at games of chance, are not in themselves unlawful occupations. The subject is divided into four books; the first contains arguments to show that play, or games in general, are not inconsistent with natural law or religion. The second book applies these arguments specifically to the kinds of play in use at different ages of the world; the book states the limitations with which the propositions be understood; and the last division enumerates the various abuses of play. The Traité du Jugement would probably few readers at the present day; and its value can be appreciated by the few who may have occasion to consult it as a digest or collection of a very peculiar kind and arguments. About the same time the younger of the Barbevracs prepared and published French translations of Professor Stoerzel's *Dissertations sur le Droit des Hommes* and *Dissertations sur le Droit des Peuples*. These works were accompanied with laboursious and useful notes and references to ancient law. In 1711 he was appointed by the Senate of the college of Lausanne to the chair of law and literature at the College of Lausanne. His unseveral authors, *Dissertationes* et *Univatis Legum et Historiarum*, were published at the request of the senate of the college, in the year 1713. In 1713 Barbevrac became a member of the Society of Sciences at Berlin; and in 1714 the German version of Grosius's *Responsa occidentali Francia* was published with notes, which display much historical knowledge; and by his edition he established his reputation as a jurist.
Barber

and in 1717 he accepted an invitation to become professor of law at the University of Groningen. A few years after his establishment at Groningen, he compiled his *Histoire des Anciens Princes et Empereurs* containing a chronicle or collection of antient treatises from the earliest times. There are authentic records to the death of Charlemagne, with full historical notes and illustrations; it was published by him as a supplemental volume to the *Corpus Universelis des Anciens Princes et Empereurs*. It appears to be by far the most useful of his works. He also translated into French Bynkershoek's *Traité du Juge compétent des Ambassadeurs*. Barber was an active part in a controversy between the Dutch East India Company and certain merchants of Oostend and other parts of the Netherlands, and was highly esteemed in that country with considerable zeal about the year 1725. The Company claimed, under a clause in the Treaty of Münster, a right of trading to India, exclusive of the then subjects of the King of Spain, while the inhabitants of the Austrian Nether- lands contended that the words of the treaty only excluded the Castilians, or Spaniards inhabiting the actual territory of Spain, and could not be extended to distant dependencies of the Spanish crown, such as Flanders and Brabant. Barber was in this tract, which is entitled *Difesa del Droit de la Compagnie Hollandaise des Indes Orientales contre les nouvelles Prétentions des Habitants des Pays-bas Antichûtes*, defends the exclusive title of the Dutch Company.

We have already enumerated the principal works of Barber. These include his *Histoire des Anciens Princes et Empereurs* and his *Difesa del Droit de la Compagnie Hollandaise des Indes Orientales contre les nouvelles Prétentions des Habitants des Pays-bas Antichûtes*, the latter being a valuable work on the history of the commerce of the Netherlands.

There is a complete set of the Barber Classics in the Royal Library at the British Museum. The following is a list of the principal works in the order of their publication:

- *Histoire des Anciens Princes et Empereurs*, 1716
- *Difesa del Droit de la Compagnie Hollandaise des Indes Orientales contre les nouvelles Prétentions des Habitants des Pays-bas Antichûtes*, 1717
- *Sceau de la Compagnie des Indes*, 1718

Barber was a man of great learning and a prolific writer. He was also a skilled diplomat and a political figure who played an important role in the politics of his time. His works were widely read and highly respected, and he is considered one of the most important figures in the history of Dutch literature.

Barbarian

Barbiton, in music, the name of an instrument in was among the antients, and that it was a kind of lyre we have a moment doubt, though writers on the subject were willing to make it into a lyre, and that it was used in the dance. It was said to be of the Barbiton, the name of a family of the Barbiton, who long rendered themselves famous for the correctness as well as elegance of the works which issued from their presses.

John Barbot, the first of the name, a native of Southwark, was born at London in 1717. He appears to be by far the most useful of his works. He also translated into French Bynkershoek's *Traité du Juge compétent des Ambassadeurs*. Barber was an active part in a controversy between the Dutch East India Company and certain merchants of Oostend and other parts of the Netherlands, and was highly esteemed in that country with considerable zeal about the year 1725. The Company claimed, under a clause in the Treaty of Münster, a right of trading to India, exclusive of the then subjects of the King of Spain, while the inhabitants of the Austrian Netherlands contended that the words of the treaty only excluded the Castilians, or Spaniards inhabiting the actual territory of Spain, and could not be extended to distant dependencies of the Spanish crown, such as Flanders and Brabant. Barber was in this tract, which is entitled *Difesa del Droit de la Compagnie Hollandaise des Indes Orientales contre les nouvelles Prétentions des Habitants des Pays-bas Antichûtes*, defends the exclusive title of the Dutch Company.

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which he lived, he gained a greater reputation, even at that time, by his poetry, in which he composed a history of the life and glorious actions of King Robert Bruce. Dr. Henry (Hist. Scot., ed. 1805, vol. viii., p. 249) says it was written "at the desire of King David Bruce, his son, who granted Barbour a considerable pension for his encouragement, which he generously bestowed on an hospital at Aberdeen." (See the Nicolson's Hist. Lib., p. 173, ed. 1430.) Dr. Jamieson, however, has clearly shown, that there is, in fact, no proper evidence that any pension was granted by David Bruce, or indeed that this monarch ever paid his commands on Barbour to write the life of his son. David I. died in 1153, five years before Barbour had written much more than half of his work; and the first intimation of his receiving a pension is not less than fifteen years after this, February 18, 1390, only two months before the death of Robert II. (Jamieson's Memoir of Barbour, p. 39.) Barbour had really two pensions, one of 10L. Scots from the customs of Aberdeen, limited to his life, and another of 20L. from the rents or burrow-mails of that city, expressly recorded as a reward for the compilation of The Bruce, and accompanied by a grant of it to his assignees in mortmain; whereupon, at his death, instead of giving it to an hospital at Aberdeen (as has been said by Godscroft, Tanner, &c.) he assigned it to the chapter of the cathedral church of Aberdeen, to sing a mass for his soul. (See Dr. Jamieson, at supra, p. 2.)

Henry says that Barbour finished his history in 1373; but this must be an error of a figure, as Barbour himself (Bruce, b. i. v. 890) says it was in 1375. While engaged in the compilation of his poem in modern Scottish, and not having the benefit of a modern education, Barbour dedicated his work to King Edward III., to try to gain recognition as a poet in the land of his birth. (See the Nicolson's Hist. Lib.)

The first known edition of The Bruce was published at Edinburgh in 1614, in 12mo.; but an earlier is believed to have existed. (See Jamieson's Memoir, p. x.) Another, printed in 1608, by Andro Hart, in 1620, was reprinted at Edinburgh, in 4to., 1738. Other editions were printed, 4to., Edinburgh, 1648; Glasgow, 1663; 12mo., Edinburgh, 1670; Glasgow, 1673; and there are a few editions in modern forms. The best editions, however, are Pinkerton's, from a M.S. in the Advocates' Library at Edinburgh, dated in 1489, with notes and a glossary, 3 vols. 8vo., London, 1796, and the best of all, 12mo., Edinburgh, 1859.

From some passages in Wyntoun's Chronicle, it has been surmised that Barbour also composed a genealogical history of the kings of Scotland; but no part of this is known to be extant.

(See Henry's Hist. of Brit., ed. 1805, vol. viii., p. 249; Pinkerton's ed. of The Bruce; Irvine's Lives of the Scottish Poets, vol. i., p. 257-263; and Jamieson's Preface to The Bruce, pp. i.-xxii.)

BARBUDA, one of the Caribbean Islands, situated 27 miles north of Antigua, is in the oval form, 15 miles in length from S.E. to N.W., and 8 miles broad. It was first settled by a party from St. Kitts led by Sir Thomas Warner, shortly after that colony was formed. The first settlers finding the coasts surrounded by rocks, a scarcity of water, and being harassed by frequent incursions of the Caribs from Dominica, abandoned the island.

Some time after, General Codrington obtained the property of it by a grant from the crown, and formed the project of planting it, as it is the neighborhood of the neighboring Barbuda islands, in which he succeeded very well. It is the only proprietary government in the West Indies. It is inhabited by two white overseers and about 400 slaves, who are employed in the raising of cotton, sheep, piggery, &c. They also cultivate corn, cotton, tobacco, indigo, and rum, but no sugar is grown. It is still held by the Codrington family, to whom it yields an annual income of about 500L.

The island is low, level, and fertile. The highest part lies to the east, and is called the 'High Land,' though it is not more than 80 feet above the sea. It is covered with woods, which are well stocked with deer and various kinds of game. Land crabs are also preserved here under lock and key, and are purchased in great numbers. A negro is placed at a table near the crabs. There is a lagoon of brackish water seven miles in length, communicating on the north-west with the sea, and having from four to six feet in it, which are snappers, barracouta, king-fish, and other species. The mansion of the estate, or castle as it is called, is situated on the margin of this lake, and around it are the plantations. A church and school house have recently been erected. The air is so mild and pure, that invalids from other islands commonly resort here for the restoration of their health.

The coasts are defended by several small batteries. Each extend off the island in some places as far as five miles, but there is anchorage on the western side. Several vessels having lately been lost on its rocky shores, the merchants of Antigua have petitioned for a light-house or beacon on it. As in other West India islands, turtle are found here on the shores. The castle is in 17° 38' N. lat., 61° 51' W. long.

BARCA, the name of a district in the eastern division of the regency of Tripoli. It is sometimes vaguely applied to the whole of that division, including the region called the antients the Syrsia, the Cyranaica, or Pentapolis, and the Marmarics. But the political or administrative division of that vast range of country is as follows:—The district called Sirt, or Sort, extends from the northern limits of the district of Misurata in Western Tripoli, to a place called Muktar, on the southernmost coast of the gulf of Sufra or great Syria, beyond which the district of Barca begins. The Sort is under an Arab sheik, who is tributary to the emir of the pasha of Tripoli. The district of Barca extends inland to the north-east from Muktar, and beyond Derna, and the line of coast parallel to it is divided into two beyluks. Bengazi and Derna, the beyas of which are appointed by and dependent on the pasha of Tripoli. The inland tract, called Hara, is under another Arab sheik, who is himself subjected to the two beyas of Bengazi and Derna. The district of Barca, which is entirely inhabited by nomad Arab tribes, includes the hilly region of Cyranaica. Various tribes wander in it, and a special beys collects a tax from the tribes of Bengazi, and the great tribe called El Harashe extend eastward of the same place as far as Derna. (Parke, J'angl. dans la Cyrénétique.) The western part of the hilly range of Cyrenaica towards Bengazi is called the Arabs Jebel Barca, or 'Mountainous Barca.'

[From coins in British Museum. Silver. Actual size. Weight the gross.] The inscription rounds the lower part of the hand to be understood, that is, 'The Peace of the Heroes.'

The name Barca is the modern form of the Greek name Barca, a colony of Cyrene (Herod. iv. 160), which perhaps existed already before as a Phoenician colony, as its name would indicate. It is stated by Sclavus to have been 100 stadia from its harbour, which became afterwards the town called Ptolemais, now Tolomea. The maritime town appears to have been in the plain of Melfia, a high tableland on the hills of Cyrenaica above Tolomea. (Bourbeau's Narrative of an Expedition to the Northern Coast of Africa; Della Cella: Pregione di Tripoli; and Frontiere d'Egitto.) Herodotus gives an interesting account of Barca, of its rivalry with Cyrene, and of the invasion of the Persians from Egypt, which took Barca by treachery after a long siege, and carried away a great number of its inhabitants into Asia, where Darius, the son of Hystaspes, settled them in Bactria (iv. 204). The territory of Barca occupied the western part of Cyrene, and its inhabitants seem to have been a mixture of Greeks from Cyrene and of native Libyans. After becoming subject to the Ptolemies, these kings built the town of Ptolemais, which drew away from Barca most of the remaining Greek inhabitants. Barca, however, remained as it existed as a town; and we find that in the first years of Christianity it had its bishop from those of Ptolemais.
The whole of the Libyan desert to the westward of Egypt, and as far as Fezana, is often called the Desert of Barca by European travellers and geographers.

BARCAROLLE, in music, a kind of song in the Venetian language sung the way that Venice. Though these airs are composed for the common people, and sung by the gondoliers themselves, yet they so abound in melody, that there is not a musician in all Italy who does not peque himself on knowing and being able to sing some of them.

The privilege of admission to the gondolas (says Rousseau, writing in the middle of the last century), enables them to cultivate their ear and taste, so that to the natural simplicity of their airs they add a degree of refinement by no means inconsiderable.

The words of these Barcarolles are commonly short and not necessarily natural, partaking of the language employed in the conversation of those who sing them: but such as like a faithful representation of the manners of a people, and have any taste for the Venetian dialect, become passionately fond both of the poetry and music of these popular songs, inso- much that many persons possess large and curious collections of them.

Formerly most of the gondoliers knew by heart the greater portion of Perugia (Eremo della) (Turin), and some the whole poem: they passed the summer nights in their gondolas, singing it in alternate stanzas. Before Tasso, Homer alone had the honour to be thus sung; and no other epic bard has since been enabled (Rousseau). But Tasso is now no longer sung by the gondoliers; they still have, however, their songs in response to each other, improviso, which the common auditor may be (and no one is unwilling to take for Tasso. The old barcarolle was sung in parts, at stern and stern of the same boat, by its own gondoliers.

Barcarolle, or boat-song, comes to us from the Italian barcarole, through the French barcarole. The well-known airs La Biondinma in Gondolietta, and O Pescatore dell'Onde, are pleasing specimens of this species of song.

BARCELLOS, a comarca or district in Portugal, situated in the province of Entre-Douro-e-Minho, bounded on the north by the river Minho, and on the south by the district of Oporto, and on the north by that of Viana. It contains a population of 13,482 inhabitants, distributed in 318 parishes. The river Cavado flows through it, fertilising the land, and supplying the inhabitants with excellent salmon, lampreys, and eels. The soil produces abundantly all sorts of corn, wine, fruit, flax, honey, and wax. The mountains and woods abound in game, and the meadows feed much cattle.

Barcellos, the district of Portugal, lies in a plain on the right bank of the Cavado, twelve miles from Braga, and twenty from Oporto, in 41° 36' N. lat., and 8° 30' W. long. It is surrounded by an old wall, with four gates, one of which opens upon a bridge over the Cavado. The bridge connects Braga, Barrolinho, the town of Barcellos, and the city of Viana. There are two parishes, a collegiate church, two convents, one for men and another for women, an hospital, and an almshouse. The number of its inhabitants amounts to 3893.

The country round is well cultivated, and the vicinity of the river affords the means of irrigation, both of which circumstances render its situation highly advantageous.

BARCELONA, a town in South America, in the republic of Colombia, and in the department of Maturin. It is the capital of the province which bears its name, and lies in 10° 10' N. lat., and 64° 47' W. long., on a small river, the Neiveri, about three miles from the shores of the Caribbean Sea. The town is on the left bank of the river, and its houses have all the elegance of those modern structures. Its unpeared streets. It is an extensive muddy in rainy weather; and in the dry season they are covered with a dust so light, that the least breath of wind raises it into the air. Nearly opposite the town, on the right bank of the Neiveri, stands a small island, called el Morro de Barcelona, on a hill, which rises to about 360 or 400 feet above the sea; but it is commanded on the south by a more lofty eminence. This fortres protects the harbour and the shipping in it; but the Neiveri is navigable to ships of any considerable size, and is besides exposed to the winds from north-east, north, and north-west. At the distance of about three miles from the shore is a small rocky island, called Borrãs, inhabited by the Aborígenes. The south side affords a safe anchorage for ships of the largest size.

Barcelona is one of the most unhealthy places in South America, being situated on the coast, the climate being very unhealthy.
America, the air being very hot and moist at the same time. But the excessive moisture is extremely favorable to the growth of tobacco and other tropical products that are found in South America which can compare with the country about Barcelona in fertility. Yet agriculture is not much advanced, and its commercial products are only cacao, indigo, and a little cotton.

The trade of this town, by its commercial relations with the Spanish colonies of the New World, was considerable. The articles of export were chiefly the produce of the extensive pastures on the banks of the Lower Orinoco, and extending northward towards the sources of the Guayarápe; they consisted of hides and skins, ague, tobacco, and cotton, and all which articles were carried to the West Indies. The situation of Barcelona is very favorable to this branch of trade, because the high land which separates the town from the Llanos, or plains, does not rise very high, and that elevation is soon passed. In three days the cotton may be brought down from the plains to the coast, while eight or nine are required to take them to Cumana; on the latter route they are obliged to pass the high chains of the Guayarápe and the Imita. This gives the town a great advantage.

The fishery is another branch of industry, but it is not so extensive as farther to the east, near the town of Cumana and the islands of Margarita, Curaçao, and Coche, and is rather carried on by the fishermen of the neighboring villages than by the inhabitants of the town.

This town had, in 1807, a population of 15,000 persons, half whites, and half mulattos and negroes. By the aborigines who inhabit the country about it, that is, by the Cumanaoyates, it is called Enipeurique. (Humboldt, De Pons. Larra菜se.)

BARCELONA (Bercino, Becerro, Ptolomey), a fortified city and port of Spain, on the Mediterranean, in the principality of Catalonia, or Catalonia, of which it is the capital. It stands on a very gentle eminence between the river Besos on the north, and Llobregat on the south, in 41° 25′ N. lat., 2° 10′ E. long., commanding one of the most fertile and best-cultivated plains in the Peninsula. This plain is bordered by a chain of mountains, which form a curve line on the south, west, and northern sides.

It was probably one of the colonies formed by the Greeks on the eastern coast of the Peninsula, and was the capital of the Lattianis, a nation inhabiting the country extending from the river Besos to the river Tàrrega; but this theory is not universally adopted. A town appears to have been built here by Hamilcar Barca or Barino, about 235 B.C., who gave it the name of his family. When the Carthaginians were expelled from Spain in 206 B.C. Barcelona fell into the hands of the Romans, who made it a colony, with the additional name of Felvientis. In A.D. 411, the Gothic King Ataulphus made his triumphant entry into it. In 718 it fell into the hands of the Moors, who kept it until 801, when the Catalans, assisted by Charlemagne and his son Louis, besieged it, and after an obstinate struggle of two years, forced the Moorish governor Omar, a relation of the name of Barcelona, Zayed, to capitulate. Barcelona was then erected into a county, and given in fief by the emperor Charles to the French king. It was taken by Alphonso II., in 1063, and it again took the name of the Christians. In 832 the Jews betrayed the city to the Moors, who burned the greatest part of it, but did not retain the place. In 1248 Barcelona was stormed by the formidable chief Almanzor, who butchered the greatest part of the inhabitants, and burned many houses; but its court, Borelo, marched to its succor, and recovered it. Barcelona remained an independent city and county, governed by its own authorities, and when, by the marriage of Raimundo V. with Petronila, queen of Aragon, the county of Barcelona and the kingdom of Aragon became united. [See CATALAN.] In 1464 the Catalans raised their standard, by the consent of Philip IV., and the place was besieged by the Marquis of Lo- Vela, but the inhabitants forced him to raise the siege, and, assisted by the French, resisted the troops of Philip for twelve years. During the struggles between the House of Austria and the Bourbon for the throne of Spain, Land Pes- tachac took Barcelona for Charles of Asturias, and in 1706. The French prince, Philip, in 1713, offered the Barcelonians a liberal amnesty if they abandoned the cause of Charles, but they openly declared that they never would recognize the pretensions of the Bourbon, and promised to maintain their privileges. Philip did not consent to that condition, and the place was besieged. In the spring of the year the city was taken by the forces under the command of Marquis of Berwick reinforced the besiegers with 30,000 men. The Barcelonians made a desperate defence; but, overpowered by superior forces, the place was taken by assault on the 15th of September.

Barcelona may be said to have existed as a municipality and commercial city since the tenth century. There is a law of Raimundo II. of that epoch, granting important privileges to all the vessels proceeding from and returning to Barcelona. As a maritime power, that state then rivalled Genoa, Pisa, and Venice, in the commerce of the East, or Court of Commerce of Barcelona, dates from 1275, when Pedro III. granted the merchants of that city the privilege of appointing, from their own body, two deputies to protect their interests. These deputies, called consuls, presided over the colegio de mariner he was elected by a majority of voices on the same day that the common-councilmen of the city were elected, and their office lasted one year. Afterwards, a supreme council of a hundred members, called on that occasion el consejo de misterio, was instituted, which was elective, and were presided over by five censors, or councilors, also elective. All these institutions were abolished, with the privileges of the Catalonians, by Philip V. Barcelona is now governed by the Ayuntamiento, or City Council, in the municipal concerns; the judicial power is exercised by two alcaides, mayors or judges, and by the Andanada, or Court of Justice. There is a Real Arcada, and a Consulado; the former is the supreme authority of Catalonia, and the latter presides over certain departments, the Comissaria, or Board of Trade, directs public instruction, and appoints and pays professors, who deliver public lectures on navigation, chemistry, mechanics, drawing, architecture, natural philosophy, agriculture, commercial engineering, short-hand writing, French, Italian, and Hebrew.

The schools, or lecture-rooms, are in the Llobregat. The schools, or lecture-rooms, are in the Llobregat. The schools, or lecture-rooms, are in the Llobregat.

All the kings of Spain, from the time of the unification of Catalonia and Aragon down to Philip V., being obliged to swear to the observance of the privileges of the Barcelona, has been frequently visited by the principal characters of the nation. Some of these visits have coincided with epochs deserving to be recorded. When Fernando the Catholic visited Barcelona, the great discoverer Columbus arrived in the city, October 20, 1492. In 1561, when Philip II. visited Barcelona, the first vessel propelled by steam was put to sea in that port. This fact is mentioned by Navareno in the "Historia de Indias," the eldest of the Vidas de Descubridores, or Vidas de Descubridores, in a manner which leaves no room for doubt. It appears that a certain Balse de Gervy, who had made the discovery, proposed to the emperor to exhibit his invention before him, upon a vessel called the Translated, of 746 tons burden. The vessel was not to be in the presence of the emperor and his court, and of an immense multitude of people, who saw her, with astonishment, read the name without sail, etc., or any other human agency except a cauldron of boiling water and a very complicated machinery for the wheels and balance. In 1655, when Ferdinand VI. was emperor to examine the invention gave an order for a company to write a report, and Carlos being called out of Spain paid no further attention to the subject. The inventor, however, was handsomely rewarded by Carlos, but the invention was lost to the world.

The mole covers a space of 6000 feet by 2500, when vessels can anchor. The original mole was built in 1437, having been destroyed by storms in the maritime disasters of 1480. The present mole was begun in 1585, and was finished in 1674. The masts of some of the galleons, Don Juan Smith, about forty years ago, have been added to prolong the mole 1400 feet towards the sea, and 200 feet front each other. The depth of water in the port is from 30 to 35 feet. There is a bar at the entrance of it.
BAR

BAR

formed by the confluence of the two streams Llobregat to the west, and Besos to the east of the town. This bar has been considerably lowered by a steam machine, which was very recently at work; and loaded vessels, drawing fourteen or fifteen feet water, can safely enter the port. A few years ago, almost all vessels were obliged to be partially discharged in the roadstead before they could enter.

Vessels are commodiously moored in the harbour at a short distance from the pier. There are not any docks or quays. The port is open to the south, but the ships are pretty well sheltered by capes and headlands; and no serious damage has occurred to the shipping since the winter of 1821, when a dreadful storm was experienced.

There are always pilots on duty, who go out to the assistance of vessels as soon as a vessel approaches the port, in order to carry her over the bar.

The fortifications appear to have been rebuilt in the time of Carlos I. The town is defended on the land side by the castle of Monjuich, situated on the south-west of the city, a citadel on the north-east, strong walls, wide ditches, and numerous batteries; and on the sea-side by a wall 380 feet long and 50 wide. Large vessels cannot approach near it for want of sufficient depth of water. The citadel is a regular pentagon, fortified according to the system of Vauban. It was built before the end of the sixteenth century, before the Spanish regiments could conveniently hold a garrison of 7000 men. It was intended not for the defence of the city, but to keep the Barcelona in awe and subjection. On the sea-side is Fort St. Carlos, connected with the citadel by a double covered way, curiously surrounding, on the land side, the suburb Barcelona.

The city is divided by a pleasant promenade, called 'La Rambla,' into two almost equal parts: the smaller, or the new part, the north-west, and the older, or the old city, on the north-east. The streets in the old city are narrow and winding; in the new city they are wider and more regular: they are paved with square stones, but not kept in good repair; they are well lighted with oil, and guarded by firemen. The churches, as public buildings, are of very simple architecture. The old town is entirely built of bricks, and in general four or five stories high, with numerous windows and balconies of different shapes. The cathedral is a noble and elegant Gothic monument in the centre of the city. It was begun in the thirteenth century, and has never been finished, although a certain fee is imposed by the ecclesiastical court upon every license of marriage, which fund is expressly devoted to that sole purpose. The churches of the Dominican friars, called Santa Catalina, and the parrish church of Baracarta, both in the same street, and the most ancient and most perfect in the Gothic style, do not deserve the credit given them by Labord. Of the Greek and Roman styles the best are the Palacio de la Diputacion, now the Audiencia, the convent of la Merced, the exchange, and the custom-house. In the Palace of the Diputacion, where the ancient courts or parliament of the principality held their sittings, are the archives of Catalonia and Aragon, a very interesting and well-classified collection of curious manuscripts and diplomatic documents, some of which are as old as the ninth century. The palace of the ancient counts of Barcelona is partly occupied by the nuns of Santa Catalina; in another part of the building is the College of Surgeons, and the remaining part was occupied by the Inquisition. This palace is in the same simplicity and length of the theatre, is, with regard to its construction, scenery, and decorations, the best in Spain. It is also the best conducted in every respect, and has excellent performers, particularly in the musical part, of which art the Barcelonians of all ranks are passionately fond. The best and most magnificent promenades are La Rambla and La Esplanada. The former crosses the city from the land rampart to the wall on the sea-side, a distance of 2712 feet; and the Esplanada extends from Puerta Nueva to the citadel, a space of 1323 feet in length, containing a public garden, fine avenues of trees, and many stone seats.

Barcelona had a university, which was abolished by Philip V, and turned into barracks, which are still called Los Estudios. There are three public libraries, one in the ecclesiastical seminary, another in the church of Santa Catalina, and the third in the convent of the Franciscan friars.

There is also an Academy of Sciences and Arts, and another of Polite Literature.

Barcelona gives its name to a bishop's see comprising 258 parishes. There are in the city nine parishes, eighteen convents of monks, nineteen of nuns, one hospital, an ecclesiastical seminary, a cathedral, a charity house, and three barracks. The Real Casa de Caridad is a charitable institution, established in 1805, in the reign of Carlos IV, for the support of the destitute of both sexes and of every age. It is supported by the produce of public balls, masquerades, and similar entertainments. It is governed by a junta, or board of six individuals of the important and industrious classes, appointed by the government. The poor are employed in spinning cotton, wool, and hemp, and weaving different sorts of the same materials, and in making webbing for tents and other similar occupations. The children are instructed in reading and writing. In 1868, the establishment supplied food and clothing to 3656 inmates, besides many poor families who were supported in their own houses. In 1882 the number of destitute persons in the institution amounted to 1500, and in 1879 to 1600.

There is only one newspaper at Barcelona, called El Vaper. Some of the works published by the Society for the Diffusion of Useful Knowledge have been translated into Spanish, and are published by the Libreria de Comunicaciones Huma-noes, and published there in a form calculated to render their circulation extensive.

The number of companies of the different trades in Barcelona exceeds ninety. The manufactures of Barcelona, which existed neither before nor since, have received great encouragement at the time of the discovery of America, but at the present time they are far behind those of France and England. Since the commerce of America has been open to all nations, the commerce of Barcelona has suffered considerably.

The number of vessels belonging to the port of Barcelona is very insignificant. What few there are find employment in the trade to Cuba and Puerto Rico. Previous to the opening of the port of Santa Domingo, the tonnage belonging to Barcelona was considerable.

The is nd of Cuba takes annually, one year with another, about 12,000 pipes of Catalonian wine, and about 3000 pipes of brandy, the value of the former being about 47l., and of the latter 6l. sterling per pipe. South America takes annually 16,000 pipes of wine and 6000 pipes of brandy. To the north of Europe about 2000 pipes of wine and the same quantity of brandy are annually imported. Very little of these descriptions of productions are exported to this country; almost the only article of merchandise which Great Britain takes from Barcelo na is nuts, of which about 30,000 bags are annually imported; the value averages thirty shillings per bag. The Imports into Great Britain from England are principally composed of raw cotton, hides, salted fish, iron hoops, hardwares, and woollen stuffs, but the quantities are inconsiderable, and the trade is declining. From Cuba and Puerto Rico Barcelona receives cotton, hides, sugar, coconuts, coffee, horns, dyewoods, indigo, and from 300,000 to 500,000 dollars in specie every year. From France and Portugal colonial products are also brought, in addition to butter and cheese; Denmark and Sweden supply fish and tar, and slaves are procured from Italy. The aggregate value of imports during the three years ending with 1831, is stated to have amounted to 420,000l. in 1829, 570,000l. in 1830, and 650,000l. in 1831, exclusive of specie. The number and tonnage of ships engaged in foreign trade that entered the port during those years, were as follows:

In 1829, 128 ships of 17,072 tons burthen
1830, 86 do. 11,225 do.
1831, 128 do. 15,135 do.

Of these, those under the British flag were:
1829, 24 ships of 2850 tons burthen
1830, 19 do. 2340 do.
1831, 18 do. 2010 do.

The customs revenue collected at Barcelona in 1831 amounted to 10,027,170 reals (100,277l.) on goods imported, and 97,019 reals (970l.) on goods exported.

There are not at present any banking establishments in Barcelona. Every merchant is his own banker.

The people of Barcelona, though partaking of the stern and severe character of Catalonians, are kind and hospitable.
and possess the art of making their society agreeable to strangers. The inns are better conducted, perhaps, in every respect than in any other part of Spain. The Barcelonians are passionately devoted to table and drink; and all those who have the means of gratifying their inclination, retire in the summer season to the neat and pleasant torres, or villas, which cover the extensive Pits, or plain, of Barcelona. From the city to the pleasant little village of Vilafranca, for about four miles, the road is-through gardens and well-cultivated fields, hedged round with the American aloes, and planted with orange-trees, olives, and other productions of warm climates. From Sarría, which is situated upon an eminence, commands the view of both the plain and the city, there is one of the most magnificent panoramic views in the Peninsula. Beyond the city, the numerous towers and steeples of which give it an appearance of grandeur, the immense expanse of the Mediterranean opens to the view.

The population of Barcelona before the war with France in 1806 was 130,000 souls. In 1810 the town was in the possession of the French, and many of the inhabitants consequently emigrated. In 1820 the population was computed at 140,000, and it may now be calculated at 160,000. The increase during the last ten years is attributed in part to the civil wars, which have occasioned many families who lived in the interior to choose the town for their residence, as one of the most important from personal convenience.

The suburb of Barceloneta is a small and pleasant town on the south-east of the city, between the port and the lighthouse. It consists of twenty-four parallel streets, intersected by fifteen others at right-angles, all twenty feet wide, one of them being built of brick and one of stone high. This suburb was built in 1754 under the direction of the then Capitan-general Marques de la Mina, whose sepulchre is in the church of Barceloneta. The place is chiefly inhabited by sailors and other men employed in the navy or merchant-vessels. Its population is 5000.

(See Capmany, Memorias Antiguas sobre la Marina, Comercio, y Artes de Barcelona; Milano; La Bord, in the Journal des savants; and Vos Piffreneque, &c.)

BARCELONETTE, a town in the depart-ment of Basses Alpes. It is situated on the right bank of the Ubaye, which flows into the Durance, and is in the midst of the mountains from which the department takes its name, at an elevation of 360 feet above the level of the sea. It was built in 1230 by Raymond Berenger V., Count of Provence, who gave it the name of Barcelonnette, because his family had come from Barcelona in Spain. Some inscriptions found in the neighbourhood have led to the supposition that it had been given a new name. For 158 years the town and the valley, of which it is the capital, remained under the Counts of Provence; but in 1558 the inhabitants recognized the Duke of Savoy as their sovereign, and for the next century they were subject to the joint jurisdiction of the Princes of Savoy till the peace of Utrecht, in 1713, when the town and valley were ceded to France. It appears, indeed, to have been conquered by Francis I., and to have remained in the possession of the French for some years, till the peace of Châlons-Cambresis in 1559, when it was restored to the Dukes of Savoy. Towards the beginning of the fourteenth century a Dominican convent was founded here, but the house afterwards given to the Prés de la Doctrine Chrétienne, who converted it into a college.

There are in the town some establishments for fulling cloth. The machinery is chiefly moved by water conducted to the place in channels of considerable length. Some trade in corn and in sheep is carried on. Sheep are reared in vast numbers in the fine pasturage of the adjacent valley. The population of Barcelonnette, in 1832, was 1789 for the town, or 2144 for the whole commune. It is in 44° 56' 58" N. and 5° 37' 37" W.

The arrondissement contains 472 square miles, or 302,666 acres, and had in 1832 a population of 18,783. It includes the valley of Barcelonnette and some other districts. The valley is of vast extent, and as its whole extent by the river Ubaye. It yields slate and coal, and the working of the latter has been given up on account of the expense attending it.

The inhabitants of this neighbourhood used to resort to Paris and elsewhere, the women as musicians, and the men as panteras, (Voyages des Départements de la France, 4e, Par J. A. La Ville, 8c.)

BARCLAY, ALEXANDER, was an elegant writer of the sixteenth century, but whether English or Scotch by birth is disputed. The author of his life in the Biographia Britannica is disposed to consider him as of Coleraine or Ulster, but Dr. Worthington, a native of St. Andrews in Scotland, assigns him to the place of Glocestershire or Devonshire, in the former of which counties there is a place of the same name. He was educated at Oxford, and was successively professor of divinity in the universities of Paris and Padua, and afterwards became a presbyterian minister in London, where his name occurs at the election of a proctor of that house March 22nd, 1503 (MS. Cole, Brit. Mus. from Reg. Eliz.), and where he continued till the suppression of the monastery in 1539. Bishop Tanner (Bibl. Brit. Hist. p. 74), from one of Bale's manuscripts, says he afterwards became a Franciscan at Canterbury. There seems no doubt that he subsequently temporised with the changes in religion. On February 7th, 1546, we find him instituted to the vicarage of Great Berewich, Essex, (Eccles. Hist. ii. p. 25), and on March 30th following to the vicarage of Wickley in Somersetshire. (Tann. Bibl. Brit. from Reg. Welben.) On the 30th April, 1548, he was presented by the Dean and Chapter of Canterbury to the rectory of All-hallows, London. He was buried in Westminster Abbey, and his epitaph is "conjectured from an incision found above the space of six weeks." He died in the June following at Croydon, in Surrey, where he was buried in the church. His will was proved on the day of his burial, June 10th, 1548. (Bibl. Brit. Hist. v. p. 234.)

In several passages of his works he avers that he was of some of his younger years at Croydon. (See Warne, in suppr. note i.) We also learn from them that John Vesey, Bishop of Exeter, Sir Giles Alington, Richard Earl of Kent, who was executed at the third instant of the 16th of April, 1547, and Thomas Duke of Norfolk, were among his patrons.

Bale (Script. Illustr. edit. 1557, cent. ix. p. 64) has treated the memory of Barclay with great indulgence. He says, he remained a scandalous adulterer under colour of leading a single life. His works are generally termed "adulter perpetuo manus." Pits, on the contrary, assures us that Barclay employed all his study in favour of religion, and in reading and writing the lives of the saints. But his works are but faintly preserved in separate editions. Thus Barclay was one of the refreshers of the English language, and left many testimonies behind him of his wit and learning, which cannot be denied.

The following is a list of Alexander Barclay's works as they are known:—1. 'The Castell of Labour', printed at Basle in the time of Rychesse, Vertue, and Honour, an allegorical poem in seven-syllable stanzas, translated from the French, 4to, London, W. de Warder, 1506. 2. 'The Shyp of Folysh of the Water', fol. Lond. R. Pynson, 1509: reprinted, ed. J. Cawdor, 1535. 3. 'The Tartrety entituled the Myrrow of good Manners,' translated from the Latin of Desmonds Manser, fol. Lond. R. Pynson, &c., reprinted with the 'Ship of Fools,' 4to, Lond. R. Pynson &c., 1570. 4. 'Espelage, or the Mirror of good Manners', 4to, Lond. R. Pynson, 1530; and fol. 1580, with the preceding work and the 'Ship of Fools.' 5. 'A Testamente against the Pelion the Great', 1576; reprinted, ed. J. Cawdor, 1579. 6. 'The life of the glorious Martyr Saynt George, from the Dutch', printed at Basle in 1594 by Sebastian Brandt, afterwards translated into French, and then into Latin. From this original, and the two translations, Barclay formed his poem with slight alterations. He has been cleared from the falses of his countrymen: it was finished in 1598. 7. 'The Treatyse entituled the Myrrow of good Manners,' translated from the Latin of Desmonds Manser, fol. Lond. R. Pynson, &c., reprinted with the 'Ship of Fools,' 4to, Lond. R. Pynson, &c.; and fol. 1570, 4to, Lond. R. Pynson, &c.; and fol. 1580, with the preceding work and the 'Ship of Fools.' 8. 'A Testamente against the Pelion the Great,' 1576; reprinted, ed. J. Cawdor, 1579. This work was partly a translation and partly an emendation of a German work of the same title, published in 1591 by Sebastian Brandt, afterwards translated into French, and then into Latin. From this original, and the two translations, Barclay formed his poem with slight alterations. He has been cleared from the falses of his countrymen: it was finished in 1598.

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Duke of Norfolk's,' ed. R. Pynson (two editions): reprinted with Pynsell's translation of the 'Conspiracy of Catiline,' etc. J. Waley, 1545. The Figure of the Mother Holy Church, 1547, by the French King. (See Herbert's edit. of Ames, Hist. Prim. vol. i. p. 267, from Maunlaw's Catalogue.) Bale, Pits, and Watts, also mention translations by Barclay of the lives of St. Catherine, St. Agnes, and St. Barbara.


BARCLAY, ROBERT, a distinguished writer of the Society of Friends, was born December 23, 1648, at Gordonstown, near Aberdeen, and not in Edinburgh, as stated by William Penn. His father was the son of Robert Gordon, of Gordonstown, by whom he was connected with the house of Huntly. The name was changed to Barclay in the fifteenth century, by one of the family who has the reputation of having been a scotism through the ages. The lords of Mathers having added to the patrimonial property a considerable estate, it became the residence of the family, who were afterwards known, for several centuries, as the Barcley family, and the foundation of which was Roger Mathers of the Mathers, an impoverished family by his extravagancies, that he was compelled to sell estates that he had been in the family for upwards of five hundred years, and along with the rest the lands of Mathers, in consequence of which the designation which had so long been adhered to the name was lost.

Upon these reverses, David, who was the eldest of several sons, went into the army, and served as a volunteer under Gustavus Adolphus, king of Sweden. Having attained the rank of major, he remained in the army until the wars broke out in his own country, when he returned home, and became Colonel of a regimentk of horse, on the side of the Royalists. On the accession of Cromwell's party to power, he retired from his military employments, married, and purchased a house at Ury, near Aberdeen, which became the seat of the family.

This gentleman had three sons. Robert, the eldest, after receiving the rudiments of his education in his native country, was sent to Paris to pursue his studies under the direction of the rector of the Scotch College in that capital. "Being ambitious of knowledge, and having a certain felicity of understanding," to use his own expressions, his proficiency was so considerable as to obtain him the notice and esteem of all the professors. At the same time, his deportment and character so endeared him to his uncle, that he offered to make him his heir, and to settle a large estate immediately upon him, if he would remain in France. The offer was at once rejected. No temptation could shake his resolution when he found that his father was opposed to his continuance in a country where he had been won over to the Roman Catholic faith. When he left Paris he was in his fifteenth year.

While the son was deserting Calvinism for Popery, the father's opinions were undergoing an equally remarkable change. During a short imprisonment, from which he was liberated without anything being laid to his charge, he was converted to the views of a sect which had then existed only ten years. Further deliberation strengthened his former convictions, and he became a member of the Society of Friends.

After an interval of a few years Robert followed the example of his father, and, in the year 1667, stowed himself a Quaker. Young Robert had evidently not been affected without a degree of thought and investigation almost beyond his years, for he was then not more than nineteen. It also gave a decided bias to his future studies. He learned the Greek and Hebrew languages, in order to speak to the Latin and classical authors, and has made great proficiency in France. To his other acquisitions he added an acquaintance with the writings of the fathers, and with ecclesiastical history. No sect ever encountered in its origin more persecution and derision than the Quakers, and therefore it was easier to suppose that this was owing to their adopting as a distinguishing badge certain eccentricities of dress, men and generally conversation. The Friends, at their origin, did not adopt any peculiar marks; they only dressed like all other sober religious people, and abstained from all extravagancies; they kept strictly to this rule, when all other people were frightened out of it, after the restoration of Charles II., under the stigma of puritanism. But the viceroy of Aberdeen was not more free from other laws of Britain than other Englishmen, and therefore he was affected to discover, under this gird and plainness of manners, a deep-rooted aersion to religion and civil government. The meetings of the Society, which, when not silent, breathed a mighty living but charitable force, were prohibited, and those who attended them were taken before the magistrates, and committed to prison. From such intolerance the family the Barcley family were not protected by the Quakers did not preserve them.

They bore their share in the sufferings of those times.

Robert Barclay no sooner ill from arise from the misapprehensions of the public concerning the principles of the Quakers, than he set himself to correct them. A book having been written by a Scotch clergyman, embodying the principal charges which had been brought against the doctrines and views of the Quakers, he endeavored to vindicate them, in a treatise published at Aberdeen in the year 1760, under the title of Truth cleared of Calumnies. A reply being made to this publication, in which all the objections were met with, the second part was put forth a rejoinder, entitled William Mitchell Unmasked, a performance replete with learning, which silenced his adversary, and refuted the calumnies with which the condemned party had been charged. He was more than ever in the same year, 1760, married to a lady of substance, and lived together in the greatest happiness during the life of his father, which continued until within a short time of his own death. Two years after this event, he took the extraordinary step of taking the Quaker's oath, that he would be clothed in sackcloth and ashes. The motive and design of his making himself such a spectacle to men is thus detailed in the writer's call: A reasonable Warning and serious Exhortation to and Ex postulation with the Inhabitants of Aberdeen, concerning this present recommendation and day of God's living Visitations toward them. After a solemn address, he thus explains his motives for this proceeding:—

"Therefore I am commanded of the Lord to pass through the streets covered with sackcloth and ashes, and to repentance, that ye might yet be more awakened and alarmed to take notice of the Lord's voice unto you, and not to despise those things which belong to your peace while the day lasts; lest hereafter they may be hidden from your eyes. And as it was once at one time of old when a thing came unto me that very morning as I awakened, and the burden thereof was very great; yes, seemed almost insupportable unto me, for such a thing until that moment had never entered me before, not in the secret of my con sideration. And some whom I called, to declare to them this thing, can bear witness how great was the agony of my spirit; how I besought the Lord with tears that this cup might pass away from me; yea, how the pillars of my tabernacle were shaken, and how exceedingly my bones trembled until I freely gave up to the Lord's will. And this was the end and tendency of my testimony to call you to repentance by this signal and singular step, which I, as to my own will and inclination, was not at first willing to take, but which came between me and God, and I am now led to believe can be averse from receiving or laying it to heart." (See the remarks on this incident of Barclay's life in Jaffray's Diary, 2nd ed. 1834.)

Barclay believed, as the Society of Friends now do, that divine revelation is not in any degree subject to reason, but in any degree subject to reason, but so impressed, as the Friends also now do, that the faculty of reason alone, unassisted by divine illumination, is unable to comprehend or receive the sublime truths relative to that redemption and salvation which came to mankind by the reconciliation held by the Society. They were capable of a rational vindication, Barclay employed the power of all the powers of his these, and produced a succession of works, designed and calculated to accomplish this object, one of the most important of which was the Quaker's confession, containing the principles of the Quakers, bearing the following title, A Catechism and Confession of Faith, approved of and agreed unto by
the General Assembly of the Palitrae, Prophets, and Apostles. Christ himself, chief Speaker in and among them. It is in the interrogatory portion of this putative work, that the author shows his skill in turning to his use the views of the Scripture of the answer. The answers are all given in the language of the Bible. This was followed by a more scholastic work, called Theses Theologicae, comprising, in fifteen propositions, the doctrinal principles of the Quakers. To this work, we have pointed out the importance of the learned, by addressing it to the clergy of every denomination; and, as it met with a favourable reception, he made these propositions the heads of a more elaborate treatise, brought out two years later, under the title of Apology. This work came under the title "The Author's Sermon: the same is held forth and practiced by the People called, in scorn, Quakers." Both these performances were originally printed in Latin, and afterwards translated by the Author and published in English. In style and execution they have been deservedly admired. They have stood the test of criticism, and will challenge a comparison with the best productions of the same class. The effect produced by them in altering the tone of public opinion was not immediately visible; but it was a step in the right direction. The Quakers' assertion of the doctrine that Christ himself was the chief Speaker in and among them, had a profound effect on the minds of the English people. The Quakers' belief in the Scriptures as the rule of conduct, and the conviction that the Lord's Supper occasioned a suspicion of infidelity. On this supposed tendency of the system it was acrimoniously attacked by John Howes in a work which he gave the title of Quakers: the Pathway to Paganism, now little known and less read. The propositions in the Apology being enunciated and maintained with logical clearness, were much canvassed in various sections of society. In the course of the works that they produced, the Quakers met with an antagonist in Nicholas Arnold, a professor in the University of Franeker, who published his objections, to which Barclay replied; and in the same year they gave rise to an oral discussion between some students in the University of Cambridge. The meeting was adjourned, and the controversy was continued with the assistance of his friend George Keith, on the other part. No part of The Apology was controverted by so many opponents as that in which the necessity of an inward and immediate revelation was insisted upon. It was the only portion of the work which could be considered original. The other doctrines contained in it had all been maintained by other defenders; their arrangement in the Quaker system of theology being the only point in which they differed from the Anabaptist sect. None of the Quakers maintained in this respect the leading tenet of the new faith was attempted to be disproved, called forth a reply from the writer, but having been requested by Adrian Piers, an ambassador from the court of the Netherlands, with whom he had some conversation and a debate on the subject, to recommend the strength of some objections which he had advanced against them, Barclay addressed him in Latin on the subject, while he was in the prison at Aberdeen, reviewed his former arguments, and declared himself more convinced of their truth than he had ever been. The translation of this letter into English was his last literary labour. It was during this imprisonment that Barclay addressed a letter to James Sharp, Archbishop of St. Andrews, who was suspected of being the cause of much of the persecution of the Quakers. The discipline or church government of the Society of Friends was as much defamed as their religious opinions. It could not be denied, that in their forms of worship, of marriage, and of burial, there was a wide departure from the Christian ceremonial; and it was generally understood that the society carried its interference to a great extent in the private concerns of those who belonged to its communion. These regulations were vindicated by Barclay in a treatise which contrasts the institution of the Quakers with the anarchy of the Romanists, justifying the discipline of his sect, and defending its members from those who accused them of confusion and disorder, and from such as charged them with impiety and licentiousness. The publication of this treatise engaged its author in a long altercation with some persons of his own persuasion, who took offence at various parts of it, as tending to violate the rights of private judgment and to restrain the operations of the Spirit. Their opposition, being disavowed by the society; then passed away, and the work itself rose into such favour among the Quakers, that it was republished, at one of its earliest editions, to Oldza, and became the standard authority on all matters to which it relates. The importance attached to Robert Barclay by the interior order of the body, and his desire to preach the gospel (he is indeed a strong motive), induced him to accept an invitation from William Penn and George Fox to Rotterdam and Amsterdam, for the purpose of consulting with the Friends on the New- Orders on some important regulations connected with their system of church government. For the promotion of this object he frequently went to London to attend its annual meetings. His character and connections gave him influence in quarters where the presence of such a man might be supposed to be least welcome. He was known and received, and treated with marked respect by Charles II. The circumstances which first led him to this palaces not but improperly known. His father had been a subject in the civil wars, and the predilections of the family were known to be in favour of the Stuart party. Beyond them, he possessed no information. His dedication to Charles II. at the beginning of The Apology, so justly admired for its bold tone of patriotism and independence, shows, that whatever else might have secured him such a commission of reproof. This appearance of his name is debited to the friendship of Elizabeth, Princess Palatine at the Rhine, a woman of religious character, whom he was visited at her little court. The respect in which this body held him is shown by his letters and the unreservedly expressed in her letters to different individuals connected with the English court; and her good offices were more than once exerted to preserve the persecuted sect from the penalties of those laws which registered the convictions, as all the conversions, for whom purposes were then denominations. In 1679 Barclay obtained a charter from Charles II. for erecting his lands at Ury into a free borough, with civil and criminal jurisdiction for him and his heirs, which was after- wards confirmed by an act of the same year. The charter states it to be 'for the many services done by Colonel Daniel Barclay and his son, the said Robert Barclay, to the King and his most royal predecessors in times past.' The privilege was enjoyed by the family until the twenty-eighth of Charles II., and was confirmed by George II. During this year he was again employed in writing in defence of his Apology, and his treatise on Discipline—his two chief works. He had previously declared his opinion that all was a hopeless cause, so long as the ground of thepopup acceptance with the principles of the Church of England. He wrote two tracts on the subject, one of which was addressed to the ambassadors of the seven princes of Europe then assembled at Nymwegen; to such a state, after he discovered a tract, accomplished of his principal work, an Apology for the Christian Divinity. In 1682 he was appointed governor of the province of East Jersey, in North America, by the proprietor, whom was his particular friend, the Earl of Portland. Although considerable inducements and privileges were offered to ensure his acceptance of this appointment, all of which were secured to him and his family by royal warrants, he was unwilling to quit his native country, and only accepted being with a view to being nominated as a deputy. His two brothers afterwards went to settle there, the youngest of whom died on the passage. The few letters of Robert Barclay's have been kept in the quiet of his family, in which his mind and character found the happy retirement of an old age. He was in London for the last time in the memorable year of 1688; and, as usual, paid a visit to James II. Being with them near a window, the king looked out, and observed that the sun was shining bright. The queen answered, 'It is a fine day replied, 'I was heart that your parliament could be induced to satisfy the people.' The king declared he would do nothing becoming a gentleman, except nothing with 'business of conscience, which he never would while he lived. After he had reviewed the downfall of the Stuart race of kings, Barclay lived two years. His death was occasioned by a violent fever, which came on immediately after his return from a journey made to some parts of Scotland. He died October 6, 1682, in the
forty-second year of his age, having survived his father only four years. His family consisted of three sons and four daughters, all of whom, along with their mother, survived him. His life was remarkable for the fact that all his children are alive at this time, living all his fifty years. The last of them, Mr. David Barclay, a merchant in Chesham, is said to have entertained three successive monarchs, George I., II., III., when they visited the city on Lord Mayor's day.

The eldest of these, Mr. Bar, places him at the head of all the writers of his sect. His works contain the only systematic view of their opinions and principles. In his moral character he was free from every reproach, and his reputation for piety was so regulated, that he was never seen in anger. In all the realms of opinion, that world in which he was conspicuous for the exercise of those virtues which are the best test of right principles, and the most unequivocal proof of their practical influence.

An account of Robert Barclay is inserted in the desiderata of our biography. In the above notice, we have been chiefly indebted to his works in three volumes, and to A Short Account of the Life and Writings of Robert Barclay, a very scarce book, written, it is reported, by Joseph Gurney Bevan, a member of the Society of Friends, and by John Barclay, above referred to.

BAROCHEBS (נַוְיֶבְרִיֵה מַלְאַךְ הָאָדָם). Shimeon Bar Cocheba, the Son of the Star, was the title of a false Messiah. He applied to himself the prophecy of Balaam, "There shall come one out of Jacob, and one out of Israel, &c." The pretensions of Bar Cocheba were refuted by the event, he was called דָּוִד נַוְיֶבְרִיֵה Ben Cocheba, the Son of Lying. The history of Bar Cocheba, in its various phases, the events of his times, will remove the historical difficulties mentioned in the article ALIA CAPOLINA.

Trajan persecuted both the Jews and the Christians. His animosity towards the Jews was probably increased during his war against the Persians, a.d. 107, at least we see that he became a personal admirer of his persecution about a.d. 108. It is not unlikely that the Jews, who had a famous school at Nisibis, under the direction of different members of the family of Bethsama, assisted in the defence of the province of Commagene, which was afterwards subdued by the Roman general Crassus, then a favourite of the emperor. The oppression experienced by the Jews stimulated them to rebellious cominations, and they put to death many thousands of Greeks in Cyprus, Cyrene, and other places, when Trajan removed the legions from these provinces at the commencement of his second expedition against the Parthians, about a.d. 115 and 116. It seems that the journey of Rabbi Aquiba or Akiba to Mesopotamia was connected with the insurrectionary cominations among the Jews. Akiba preached the approach of the kingdom of Messiah, and among the adherents of this opinion, he was the chief person of Bar Cocheba, and in the same year a rebellion broke out in Mesopotamia. Lucius Quietus, having subdued the rebels, was appointed by Trajan governor of Palestine. Many rebellions were executed under the government of Q. Petronius, especially in Chalcis. After the death of Trajan, a.d. 118, the Emperor Hadrian deprived the ambitious Quietus of his office, and appointed J. Annius Rufus governor in his stead. This man (whom the Talmudists erroneously call Tumrus Rufus, and whom some rabbis style render) adopted very harsh measures against the Jews, who consequently began secretly to collect arms, a.d. 120. Aquiba, who had declared himself in favour of Bar Cocheba, was, with many other rabbis, cast into prison. The Emperor Hadrian, from his journey to the East, about a.d. 130, the rebellion broke out. Shimeon Bar Cocheba gained influence partly by a reputation for miraculous powers, and partly by his intrepidity. Many miracles, however, in his כְּפַרִי and elsewhere, ii. of כְּפַרִי do not come into his generation. It is amazing to know that the king Messiah should be expected to perform signs and wonders. This is not the case, as showeth the great and wise rabbi Akiba, who was one of the wise men of the Maschiah and the arm-bearer of the king Ben Cocheba, who declared he was to be the king Messiah, and deemed him, with all the wise men of his generation, to be the king Messiah until Ben Cocheba was killed in his sins. . . . .

And the wise man did not demand of Barcocheba either a sign or a wonder. His followers, the number of whom increased rapidly, fortified the city of Barcocheba, the number of the inhabitants of the mountains, concealed arms in caves, commenced a guerrilla warfare against the Romans, and cruelly persecuted the Christians who refused to join them. Bar Cocheba took Jerusalem about a.d. 132 without difficulty, as the garrison had probably left the town to attack the rebels. He issued coins, having on one side his own name, and on the other Freedom of Jerusalem. These coins are probably the same which occur under the name of Corduba, according to some rabbis, may mean either false coins, or coins of Cocheba, or coins of the town Zaban. Gen. xxxvii. 8.

In the British Museum is a coin ascribed by some to Simon the Maccaeeus, corresponding to the description given by Tychsen and others of a coin of Barcocheba. One side of this coin has a profile portrait of a man, in the midst of which is a lyre; a serpentine stroke below it, and the name of the book of Kidron, and a star seems to allude to Num. xxiv. 17. The other side has a vessel of manna and a leaf. The two legends are in coin characters and הנע תרגי and מַלְאַךְ הָאָדָם. Minucius, considering a coin similar, that Barcocheba had commenced the rebuilding of the temple; but Nonius Callistus. Hist. Eccl. iii. c. 84 and Cedrenus (Script. Hagi. xii. p. 249) say only that the Jews intended to rebuild the temple. Rabbi Abrahaem Ben Dov, in his שָׁבוּא נוֹדֵל, and other Jewish writers, state that the credit is due to the statement, that after the death of Barcocheba, his son Turnus succeeded to the throne, and was himself succeeded by his own son Romulus.

The taking of Jerusalem so animates the courage of the friends of liberty that Rufus was not able to resist them. The rebels occupied 50 fortified places, and 985 villages.

On this the Emperor Hadrian ordered his most able commander, Julius Severus, to leave his post in Britain, and repair to Palestine; but the time was elsewhere. During his journey was favourable to the rebels. After his arrival, Julius Severus wisely avoided battles, took a number of fortified places before he marched against Jerusalem, and after penetrating only the outermost part of the city, was repulsed by a Cuthite (i.e. a Samarian), as he intended to betray Beth to Hadrian. He died in a hospital of the Cuthites. The Jews, after the capture of the city, concentrated their forces in the mountain-fortress of Bethar, which was probably the same as Bethania, in the neighbourhood of Bethoron, on the north-west side of Jerusalem. While Julius Severus was still playing the king in Bethar for three years, and, on the unfounded suspicion of treason, executed the learned Eleazar of Modain, who having prayed for the welfare of the fortress, was slain by a Cuthite (allegation of a Baptist). As he intended to betray Beth to Hadrian, in order to make his personal advancement, he was arrested, but this must be greatly exaggerated. Bar Cocheba fell in the combat, and his head was brought into the Roman camp. Aquiba, and many rabbis, who were considered authors of the rebellion, were put to a cruel death.

AQUIBA, an Allgemeine Geschichte des Israélitischen Volkes, von Dr. J. M. Joist, vol. ii., from a.d. 107 to 133; Sepper Jachsin, ed. Cracow, pp. 32, 35; Seder Hadrathoth, p. 43; Tannach David, to the year of the Jewish era 3806, and other Jewish chronographers, who refer to the respective passages of the Talmud of Babylon and Jerusalem; Tractatus Talmudicus Bobyl. Gittin. fol. 7, apud Joh. a Laut de Judæorum Pseuda-Metis. BARD, an appointment of uncertain etymology, chiefly appropriated to the earliest poets or the Celtic tribes.

Lucan (ib. i. p. 447) describes the office of the bard, and gives his very name:—

You saysoun, qui fort as ancares, laudibus populorum Luidem in longum versos distillac rum. Plautus.

Plautus.

You, too, Ye Besch one whom sacred cages five To chant your poem in your country's lyre.

Horace in your immortal strain. Brave patron souls in righteous battle slain—Rowz.

Tatius uses a term, not found in any other writer, which seems derived from the name of the bard. Horace says the Germanus used songs, by the repetition of which, their effect was that they sought to increase the fury of their warriors, and from the effect of the song drew omens as to the issue of the coming battle. (Germanus, 3.)

The information above, which remains to us from classical sources relating to the bards is, for the most part, scanty and detached; Strabo (p. 197) says that the bards (Jaap) were singers of hymns and poems among the Gauls.

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They were, no doubt, originally spread over the greater part of Western Europe, but gave way to southern civilization; and it is the lawyers and historians who, according to Walton, have gained the most from their history. They are, however, to the bard, a valuable source of information on the history of the Welsh and Irish, for they have preserved the bardic traditions in their songs and tales.

Warton says the bards of Britain were originally a constitutional appendage of the Druidical hierarchy. In the reign of Claudius, in the Island of Anglesey, there are still to be seen the ruins of a small stone house, called Tref Drw, that is, the Druid’s mansion: near it are a few mounds, but nothing more. Among these is a Druid’s badge, a large stone, on which the Druidic inscriptions are still to be seen, and are said to be the marks of the habitation of the separate convivial societies which were under his immediate orders and inspection. Among these is the Druid’s badge, a large stone, on which the Druidic inscriptions are still to be seen, and are said to be the marks of the habitation of the separate convivial societies which were under his immediate orders and inspection.

But so strong was the attachment of the Celtic nations (among which we reckon Britain) to poetry, that amidst all the changes of government and manners, even long after the Druidical hierarchy had been taken off, and the bardic orders had been, to a great extent, ruined, the bards, acquiring a sort of civil capacity and a new establishment, still continued to flourish. And with regard to Britain, the bards flourished most in those parts of it which most strongly retained their native Celtic character. The Britons living in those countries that were between the Trent orumber and the Thames, by far the greatest portion of this island, in the midst of the Roman garrisons and colonies, had been so long inured to the customs of the Romans that they were converted to Christianity, and the usual maxims of the country, the Welsh, the Cornish, the Cumbrian, and the Strathclyde Britons. Among other British institutions grown obsolete among them, they seem to have lost that of bards; at least there are no memorials of their having had any, nor any of the songs remaining; nor do the Welsh or Cumbrian poets ever touch upon any transactions that passed in those countries after they were relinquished by the Romans.

Here, then, we have the reason why the Welsh bards flourished so much and so long. But moreover the Welsh, kept in awe as they were by the Romans, harassed by the Saxons, and eternally jealous of the attacks, the encroachments, and the neighbourhood of aliens, were on this account attached to their Celtic manners: this situation and these circumstances inspired them with a pride and an obstinacy in maintaining a national distinction, and in preserving their ancient usages, among which the bardic profession is so eminent. (Warton, Hist. Engl. Poets, vol. i. Diss. 1.)

By the laws of Hoel Ddaug, about the year 940, the Bardd Truln, or court-bard, was a domestic officer. He occupied the eighth place in the prince’s court: he held his land free: the prince was to allow him a horse and a woolen coat, and on his birthday give him a sumptuous feast, Christmas, Easter, and Whitsunday, he was to sit next to the prefect of the palace, who delivered the harp into his hand; and at the same festivals he was to have the rest of the feast reserved for him. When a song was required, the bard who had gained the badge of the chair (in musical contest) was first to sing a hymn in glory of God, after that in honour of the prince, and then the Tewlutw, or bard of the hall, was to sing some other subject. If the queen desired a song, the bard was to attend in her chamber. When he accompanied the prince’s domestic servants upon a foray, he was to have an ox or a cow given him from the booty, and while the prey was distributed he was to sing the praises of the British monarchy. He was also to sing the praises of the British monarch. He was the head of the detachment when drawn up for fight. This, says Pennant (Tour in Wales, edit. 1784, vol. i. p. 481), was to remind them of their antient right to the whole kingdom; for theirs was almost always the privilege on the English territories, they thought they had no more sense on their own. When invested with his office, the prince was to give him the bard a harp, and the queen a ring of gold. Some of the laws of the law of the Druids constitutions say a chess-board instead of a harp. The prince, it is no news, was to be fined by singing an ode or poem; if of a nobleman, he was to sing till he was weary or fell asleep. Any slight injury perpetrated on the royal bard was to be compensated by a fine of six cows and a horse; or, if he was injured, and lived, in Wales and Ireland, that we gain our best materials for their history.

The marriage of his daughter was estimated at a hundred and twenty pence. Her present request was thirty shillings, and her dowry three pennies. (See the Leges Walicen, edited by Wotton, fol. Lond. 1728, p. 19, cap. 39, 35, 36, 37.)

The prince’s guest was another domestic bard of the higher order, who frequented the courts of the Welsh princes, though he was not a regular officer of the household. His duties were another order of the Leges Walicen, cap. 118, pp. 68, 69. See also Pennant’s Tour in Wales, 4th ed. p. 452.

Pennant says, ‘The bards of Wales were supposed to be endowed with powers equal to inspiration. They were the custodians of the records of local transactions, public and private. They related the great events of the state; and like the seafarers of the northern nations, retained the memory of numerous transactions, which otherwise would have perished in oblivion. They were likewise thorough connoisseurs of the works of the three principal bards, viz. Myrddin ap Merfryn, Myrddyn Emrys, and Taliesin ben Benedd. But they had another talent, which probably endowed them more than all the rest to the Welsh nobility, that of being most distinguished genealogists, and flattering them by singing the deeds of an ancestry derived from the most distant period.’

The Welsh bards were reformed and regulated by Gwilym ap Conon, king or prince of Wales, in the year 1141. (Carton, Hist. Welsh Poets, p. 330.)

Pennant gives a minute account of the eisteddfod, or sessions of the bards and minstrels, which were held at Wale for many centuries: one was held at the town of Caerwys; another at Aberfraw in Anglesey, for the bards of that kind and the neighbouring country; and a third at Mathrafal, in those of the land of Powis. The reason that these places were thus distinguished was because the last were the residence of princes; and the Caerwys, on account of the rest that stood below the town, the residence of Llywelyn ap Gryfydd.

At these eisteddfods, which Pennant terms the British Olympics, none but bards of merit were suffered to rehearse their pieces, and minstrels of skill to perform. These were chosen by a long probation: judges were appointed to decide on their respective abilities; and suitable degrees were conferred, and permissions granted for exercising these talents in the manner already described. In the earlier periods, the judges were appointed by commissions from the Welsh princes and the communities of the island of Anglesey; but in England, notwithstanding that Edward I., according to constant tradition, exercised great cruelty over the bards of his time; yet future princes thought fit to revive an institution so highly esteemed by pagans and Romans, and so much in the laudable practice of many people. The crown had the power of nominating those that decided not only on the merit but the subject of the poems, and as our modern lord chamberlains used to do, were certain of licensing only those which were agreeable to the English court.

A commission for holding an eisteddfod at Caerwys, in 1568, was, in Pennant’s time, in the possession of Sir Rowly Mostyn, together with the silver harp, which had been immemorially bestowed in the gift of his ancestors, to bestow on the chief of the faculty. This badge of honour was about five or six inches long, and furnished with strings equal to the number of the Muse. The commission, of which Pennant has given the form, as well as an engraving of the harp which was granted. It was dated 2nd of 9 Eliz. In consequence, an eisteddfod was held on the 26th May following, when various persons received degrees, some as chief bards of vocal song, others as primary, secondary, or probationary students; and many more as bards and minstrels, and teachers of instrumental music, by which they were enabled to perform such tunes as they had learned and composed. Players on crwths with three strings, bards, and pipers, were reckoned among the ignoble performers; they were not allowed to sit down, and had only a primary share in their parts. The degrees consisted of a horse in the parish, and five or six horses in the munici, and the like, according to the amount of payment, and so on. Players on crwths with three strings, bards, and pipers, were reckoned among the ignoble performers; they were not allowed to sit down, and had only a primary share in their parts. The degrees consisted of a horse in the parish, and five or six horses in the munici, and the like, according to the amount of payment, and so on.
Since the days of Queen Elizabeth, as has been already said, no royal commission has been issued for holding an eisteddfod; but individual and collective exertions have not been wanting, of improving not only for the edification of the bardic profession, but for the general cultivation and encouragement of Welsh literature. The Gwynnedigion Society was established for this purpose in 1776, and the Cambrian Society in 1818. Annual meetings have also been held in London, which gives new impetus to the performances upon the harp; and another society, since formed, immediately under royal patronage, called The Cymmoridion, or Metropolitan Cambrian Institution.

The Irish carry the history of their bards to the earliest age of their nation. The details of that history, in a diffuse form, are given in Walker’s Memoirs of the Irish Bards, 4to. Lond. 1796.

These bards were of three classes: 1. The Ollamhain Reitems, a title given to those who turned their attention into verse; they adorned the troops before and during engagement, and raised the war-song. 2. The Breithaimhans (Brehonas), or legislative bards, who promulgated the laws in a kind of recitative, or monotonous chant, seated in the open on a large chair. 3. The Semnodi were antiquaries, genealogists, and historians; they recorded remarkable events, and preserved the genealogies of their patrons in a kind of unpoetical stanza. Each province and chief had a Seancha. Besides these three orders of bards, there was another of an inferior order, the Poetrí, or poets, who, when permitted, were permitted to wear a robe of the same colour with that of the royal family. They were constantly summoned to a triennial festival, and the most approved songs delivered at this assembly were ordered to be preserved in the custody of the king’s historian or antiquary. Many of these compositions are referred to Keating as the foundation of his History of Ireland. Ample estates were appropriated to them, that they might live in a condition of independence and freedom. Keating says of them, they were hereditary; but when a bard died, his estate devolved not to his children, but to his family as discovered the most distinguished talents for poetry and music. Every principal bard retained thirty of inferior note as his attendants, and a bard of the secondary class was followed by his retainers or antiquaries. Many of these compositions are referred to Keating as the foundation of his History of Ireland.

According to Keating, the songs of the Irish bards are by some supposed to be mere versified stories and a simple trace of Scælic imagination, and these traces are believed still to survive among a species of poetical historians, whom they call tale-tellers, supposed to be the descendents of the original bards. They are with equal vigour and velocity relates, "that a gentleman of the Irish Bardstown, account is given of his own experience, that in his wolf-hunts there being, when he used to be abroad in the mountains three or four days to gether, and laid very ill in the night, so as he could not well sleep, they would bring him one of those tale-tellers, that when he lay down would begin a story of a king, or a giant, a dwarf, and a damsel." (Sir William Temple’s Essays, vol. ii. p. 249.) In a subsequent passage he adds, "we have already seen that the Bards of Seancha have been sent out in Ireland, and there is sufficient evidence to prove that the Welch bards were early connected with the Irish. Even so late as the eleventh century, the practice continued among the Irish, of sending their Bards to King’s college of St. Joseph, founded in 1819. This college, which is on the direction of Roman Catholic

BARDSTOWN, or BAIREDSTOWN, is the principal town in Nelson County, Kentucky, in the United States of America, and at the census of 1830 contained 1625 inhabitants. The town is situated on the head-waters of Salt River, which is about 390 miles from the Ohio, and 606 miles from Washington. The place has improved rapidly during the last few years. A macadamised road has been commenced between it and Louisville, which it is thought will still more advance its prosperity. A private subscription is being raised to finish the Catholic College of St. Joseph, founded in 1819. This establishment, which is under the direction of Roman Catholic
clergyman, has accommodation for 200 pupils. The number
of professors and teachers, in 1832, was 14. The library
contains about 5000 volumes; and there is a good philo-
sophical apparatus.
2. Thomas's staunch mule, four miles, is
at Bardsley, was established in 1811. It is under the
direction of the Bishop of Bardstown, and is an appendage to
the College of St. Joseph. (Thompson's Alcedo; American
Almanac, 1832, 1833, and 1834.)
3. Bardsey is an island in the Irish Sea, belonging
to Carnarvonshire, in North Wales, near the north point
of Cardigan Bay. Its distance from the nearest point of
the promontory of Bridey Pell, in Carnarvonshire, is about
two miles and a half; its length is somewhat more than
two miles; its breadth, reckoned from one of its chief
islands, of which nearly a third is occupied by a mountainous
ridge, which only affords food for a few sheep and rabbits.
The island is sheltered on the north and north-east by the
above elevation, the sea front of which is partly protected
and projecting cliffs, in which the hazardous trade of taking
eggs, by the adventurer being left down by a rope from
the top of the cliff, is practised during the resort of puffins
and other migratory birds in the spring season. Bardsey is
only accessible to the main south-east side, where there
is a small well-looked after, habitable, clothed in
vessels of thirty or forty tons burden. The soil of the island
is chiefly argilaceous and is tolerably fertile, producing
excellent barley and wheat. No reptile is ever seen in the
island; and it is a common superstition, a circumstance which
is accounted for by the want of sheltering woods.
The island belongs, or did belong lately, to Lord New-
borough, and its rental was a hundred guineas a-year, let
out in three bargains. The population, in 1831, was eighty-
four souls, consisting of ten males.
The present name of the island is probably derived from
its having formed a refuge to the barbs. It was also called
the 'Isle of Saints' and Ynys Enlli, or the 'Island of the current,' on
which St. Macwan's monastery stood, a circumstance which
is accounted for by the want of sheltering woods.
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The district of Bareilly is for the most part level, and
being abundantly watered by the Ganges, which forms its
boundary to the west, and by many small streams, the
soil is generally good. About two miles from Bareilly,
in 1815, the district contained 4,608,300 small bighas of land
cultivated, which is considered to be superior in quality to
the best rice exported to Europe from Pains. Sugarcanes
and grain are among the objects of cultivation.
In summer, notwithstanding its northern position, the
heat of the district is excessive; but during the winter
the winds which blow from the Snowy Mountains on the north
make the air so cold, that the thermometer is sometimes
seen below the freezing point, and water is frozen even
placed under the shelter of the main. The

The district contains several considerable towns. These
are, in addition to Bareilly the capital, Budhyan, Chaw-
dowry, Chikleah, Cassopur, Pilibet, Ramgar, and
Bhab seus.

Budhyan, situated in 28° 4' N. lat. and 78° 16' E. long.
is a very ancient place. It was a flourishing town when
conquered by the Mohammedans in 1295, and is so mentioned
by Abu Fazi; but it is no longer of any importance.
Chundowry, in 28° 6' N. lat. and 78° 36' E. long.,
currendy of great trade in salt both inside and
outside. At this place is a considerable
English Chikleah, in 28° 24' N. lat. and 78° 19' E. long., is a place of importance as one of the principal
ports of trade with Kumaon, and through that district with
Yarw and Patara. A kind of the latter, at certain seasons of
the year, when temporary huts or booths are set up, in
which are exposed for sale English woollen and

Bareilly, more than any other place, is a centre of rich
wealthy inhabitants. A tank, to which great accuracy
is attributed, is the cause of many Hindu pilgrims visiting
this town, which likewise contains several temples. Pili-
bet, in 28° 1° N. lat. and 78° 45' E. long., is built on the
banks of the Ganges, which is navigable only during the
rainy season. This town carried on a considerable trade
previous to its cession to the English, which it then, for
the most part, lost, but its commerce is now somewhat reviving.
The town is celebrated as being the principal place of
commerce in the whole of the country. It is particularly
famous for its sugar, which is manufactured from the
sugar of the Jute plant, and is sold to the British
merchants for the Indian and foreign commerce as Pilibet rice. A very elegant mosque was
built here during the dominion of the Rohillas. The
name of Ramgar, Shingharpur, and Bareilly, request
detailed remarks.

The roads and bridges are generally better maintained in
Bareilly than in most parts of Hindustan, and the barter
and cart employed for the conveyance of goods is more con-
omodious than that used in the latter provinces. The trade
with Kumaon, and with the countries beyond to the north,
is mostly managed by means of goarts, which carry
to roads to very great distances, even as far as Thar, across
the mountains; this trade consists principally in cloth, rice,
sugar, and cotton goods. Between the date of its conquest in 1774, and its cession to the East India Company in 1801, Bareilly discharged considerably in
prosperity, owing to magisterial government, and large
tracts of land, which had previously been under cultivation,
were allowed to be reclaimed. The trade of Bareilly was
secure for property which had followed the establishment
of British authority, has restored its rich past condition, which is said to be progressively advancing.
The native population is considerable, and the town has a tall location.
Accordingly, the population followed the trade of war, serving readily under
the chief who would take them into pay. The

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been raised for this turbulent dissipation, and have thinned the populous and settled the desolate. Hindus are said to be nearly equal in numbers in this district, but no census or classification has ever been made by which the exact proportions could be ascertained.

(Mills's History of British India; Papers in Appendix to the Minutes of the Committee of House of Commons on the Affairs of India.)

BAREILLY, the capital town of the district Bareilly, is situated in 28° 23' N. lat., and 79° 16' E. long. This town stands on an elevated spot near the banks of the united streams of Bari and Neel, and forms part of the N.W. of the Ganges. It came into possession of the British in 1801, at the time of thecession to them of the district of Bareilly, and was then made the seat of a civil establishment in consequence of a current, having jurisdiction over nine other subordinate districts.

The town of Bareilly is extensive: when a survey was made in 1823 it was found to contain 12,926 houses and shops, and 64,795 inhabitants: of these about two-thirds were Hindus, and one-third Mohammedans. The principal street is nearly two miles in length, and the houses, although low (many of them having only one story), are well built: in some other parts of the town the houses are little better than huts. The civil and military servants of the Europeans are in two wards, these being on the town to the south; where a kind of citadel has been built, strong enough to protect the European inhabitants from any attack of the natives. The building of this fortification began after the innovation of the natives in 1816, which broke out in consequence of an attempt on the part of the government of the East India Company to impose a small tax to defray the expense of the local police: this insurrection was not suppressed until a few years after its outbreak.

The inhabitants of Bareilly show much ingenuity in the manufacture of sword-cutlery and various other objects, such as fine carpeting, embroidery, jewellery, book-binding, and engraving. The town is likewise noted for its brass manufactory, which is small, and supplies the districts in the upper provinces of India are supplied from Bareilly with various articles of household furniture, which are conveniently and beautifully made.

Bareilly lies about 100 miles west of Lucknow and Delhi, and is distant from Agra 192 miles, from Benares 345 miles, from Calcutta 805 miles, from Delhi 142 miles, and from Poonah 910 miles, travelling distances.

(Rennell's Memoir of a Map of Hindustan; Mills's History of India, with Minutes of the Committee of House of Commons on the Affairs of India.)

BARETH, or BAYREUTH. [See BAYREUTH.]

BARE LINE. [See GEOIDEY.]

BARETTI, JOSEPH, was born at Turin in 1716. He was educated at the Jesuit school for the preparation of the law, but young Baretti feeling a dislike to it, left his father's house at the age of sixteen, and went to Guastalla, where he had an uncle, who placed him as a clerk in a commercial house. Here he learned Greek, he was educated to the study of poetry, and he took particular delight in the facetious style of composition in which Berni excelled. Among the prose writers, Bevenuto Cellini was his favourite. After a few years he left the counting-house, and went to Milan and Venice, where he became acquainted with Gesualdo Grezi, Pescorini, Parini, and other literary men of that age. At Venice he was employed by a bookseller to translate Corelli's plays into Italian; and in the same city he entered into a literary controversy with a Doctor Schiavo, in which he displayed considerable learning, and the return to Turin, in 1747, he wrote a pamphlet against a professor of that university, of the name of Bartoli; but the pamphlet was suppressed by the regent of the university, and Baretti being reproved, desired to leave Italy, after the publication of an essay on the study of the English language, and in 1751 he came to London, where he employed himself as a teacher of Italian. After he had begun to reside in London, he translated into English the thirty-third Canto of Dante's Inferno, which contained the story of Beatrice, and the story of an insurrection in the study of the English language, and in 1757 he published the Italian Library, which was an account of the lives and works of the most valuable authors of Italy, with a short history of the Italian language: this work is valuable as a catalogue, as giving some biographical information, and corresponding to the Royal Academy of Painting, Sculpture, and Architecture. In 1760 he set off on a tour with a wealthy English gentleman of the name of Southwell, went to Lisbon, and thence through the Peninsula of France, to Italy. He gave an account of his journey in his Lettere Familiar, published at Milan in 2 vols., 1762, which being written in a lively style, and relating to Spain Portugal, and France, at that time so visited by travellers, attracted considerable attention. He afterwards returned to London, where he worked into English, and published it with considerable additions, under the title of A Journey from London to Genoa, 4 vols. 1760, Dublin, 1770.

He was of a critical turn of mind, and wrote a critical journal, called Frusta Litteraria, the Literary Scourges, which attracted much attention in Italy. His object was to reclaim the generality of Italian writers of his time from the vices of a too great zeal for the authority of rhetoric, and to direct their minds to logical and philosophical studies. But he conducted his journal in a tone of bitterness, and became involved in personal quarrels with several writers of some note, and among others with Father Appiano Buonafede, a monk high in rank, of the order of Celestines, and himself a man of considerable learning, who published a reply to Baretti, under the title of Il bosco pedagogico. The controversy between these two men was carried on in a very offensive manner, which shows how much the intellectual society of the time was animated by a spirit that reminded us of the scandalous quarrels of Valla and Poggio, and was disagreeable to both the combatants. Buonafede being a man of high connections, Baretti thought it prudent to retire to another city, and he accordingly repaired, in 1765, to Ancona, where he was received by the Jesuit provincial, affixing to it the false locality of Trento. Some time afterwards he discontinued it, having published the 33rd Number, and returned to England.

The Genoese Ambassador at the Court of the Manners and Customs of Italy, with Observations on the Manners and Customs of Travellers with regard to that Country, 2 vols. 8vo., London, 1759; this work is a series of sketches on a Tour in Italy by a Dr. Sharp, who had judged the Italians very superficially, and was very perplexed by the number of the states and cities to be visited in the course of the tour. Baretti deduced from this tour many interesting observations on the manners and customs of the Italian people, which he enlarged and improved in his own Observations, and exposed his flippancy in judging of the language and literature of foreign nations, such as the English and the Italian, with which he was very superficially acquainted, and into the spirit of which he could not enter. This little book is written in a very lively style, and as such is of much energy in the history of thought, considering the age in which it appeared, and the overgrown reputation Voltaire then enjoyed.

Baretti published an Italian Grammar, and an Italian and English Dictionary, in two vols. 4to., London, 1786, a pocket translation of the former one of Alciati; it has since gone through several editions, and is still much in use. He also compiled a Spanish and English Dictionary, fol., London, 1778.

One evening as Baretti was going to the Academy he found himself unexpectedly involved in a street brawl. Being attacked by several men, he drew his pistol and wounded one of the assailants, who soon after died. He was tried on the capital charge, made his own defence, and was acquitted by the jury. Dr. Johnson, Mr. Burke, and Mr. Garrick, on the trial, gave favourable evidence as to his character.

In 1782 Baretti obtained an increase of his salary as secretary to the Royal Academy, which, added to the profits derived from his literary labours, enabled him to live in decent comfort till 1783, when he died in London, in his 75th year. He was acquainted with many of the English literary men of his time, and especially with Dr. Johnson, with whom he was in habits of friendship.

Dr. Johnson was remarkably favourable of Baretti's book of travels, and states, on Baretti's own authority, that he was the first man that ever received money, for copyright in Italy. (Bowell's Life of Samuel Johnson, vol. i. p. 181.) He also praises Baretti, passim, among other particulars concerning Baretti, in this work, as a writer of three very friendly letters from Johnson in 1761, 2, after
BARFLEUR, a small fishing town in France, in the peninsula of Cotentin, or Cotanun, now included in the department of Manche. As it is not on the coast, it was not so important as one of its neighbors, Vauxanges, which is 204 miles from Paris, on the road to Cherbourg.

The name of this town has been variously written, and it had another name also, that of Val de Cere, but Barfleur is the most common appellation. In former days it was a town of considerable importance, and had a good port. It was reduced to ashes, in 888, by the celebrated Northman Hasting, King of the Cotentin; it rose again into importance, which it probably owed to its port, then accounted the best in Normandy. Barfleur was the common place of embarkation or landing for the kings of England and France in the days when they crossed the Channel, and it was here that William, son of Henry I., embarked previously to his shipwreck in 1120. With the rest of Normandy it passed into the hands of the kings of France; but in 1346 it was taken by Edward III. of England, and from that time it has been upon which the English have set their salt, the chief trade being with the inhabitants. Barfleur never recovered from this blow. The port being neglected was filled with sand, and is now only sufficient for small boats which draw little water. The place has sunk into insignificance, but is still a chief fishing station, and the produce of the neighboring lands, peat, beans, flax, linen yarn, hemp, and butter. The Dictionnaire Universel de la France (Paris, 1804) assigns to Barfleur a population of 893. We have no authority of later date. There is a tradition that the Revolution a convent of Augustinians, founded for that order, or given to them by Philip IV. (le Bel) of France, in 1266. The north-eastern extremity of the peninsula of Cotentin bears the name of Cape Barfleur. It is in 49° 43' N. lat., 1° 16' W. long. All this coast is remarkable for the excellence of its fish. (Dictionnaire Universel de la France; Expi.)

BARAGLI, SCIPIONE, was born at Siena, in Tuscan Italy, into an ancient family, about the middle of the present century. He became distinguished as an elegant writer, and was a member of the academy of the Intromart of Siena, as well as of the Venetian academy which was instituted at Venice in 1593. Bargagli's principal works are, 1. Il Trattato de' Comuni, 1580. 2. L'Impresa di Scipione. In imitation of Boccaccio's Decameron, the author supposes four ladies and five young men to meet at carnival time in 1555, at Siena, while that city was suffering all the privations and dangers of a siege, and to entertain each other by presenting and answering questions concerning love-matters, after which each of the party tells a tale. Bargagli's tales are neither loose in their meaning or images, nor indecent in their language. The work became very popular in all Italy wherever the people of Siena had the opportunity to read it. This was in 1554, and was followed by the united forces of Charles V. and of Cosimo, Grand Duke of Florence, previous to the final extinction of their republic. It is a faithful historical account, and calculated for the most part from present, and is calculated to give the history of the city of Florence. 2. Dell' Impresa, 1591. 3. Dell' Impresa de' Comuni, 1594. This is a work of considerable erudition concerning the origin and symbolic language of devices and mottos which were assumed in the ages of chivalry by knights, or on occasion of their election, many of which became perpetuated in the escutcheons and armorial bearings of noble families, while others were assumed by academies and other societies. This book is considered as one of the best on the subject. Bargagli died in 1619. His last work was a fresco of the Palazzo made Count Palatine, with the privilege of elevating the double-headed eagle to his cost of arms. The third work of Bargagli is Il Turismo nuovo del Parla che della Scrivere Sarete, 4to, Siena, 1602, a dialogue on the roman dialects of Tuscany, and especially on that of Siena, explaining the principal differences of spelling and pronunciation between that and the Florentine dialect, as well as the difference in certain words used by each to signify the same object. It was dedicated to the learned writers, especially poets, beginning from the thirteenth century. It is a work of some interest to philologists and Italian scholars. Bargagli wrote other minor works both in prose and verse. He died in 1619. His brother Giovanni, a professor of law, and afterwards a counsellor of some note in the native city, was likewise an author. He wrote a book called Dialogo dei Giocchi che nelle Veggie Saremo in usato da Signori, Florence, 1575. It is a kind of the infant games which are to be and are still occasionally played at Italy among friendly parties assembled to pass together the winter evenings, and in which there is often a considerable display of wit and ingenuity, of quickness of repartee, and shrewdness in guessing. The author justly condemns the licentious equivocations or indecent allusions which are at times resorted to in these games. This book has been by some erroneously attributed to Scipione Bargagli. (Marzorati, Storici di Italia.)

BARGAIN. This word is immediately derived into the English language from the French barguignier; and perhaps ultimately from the Italian bargajn. Its etymology is quite uncertain, but it appears to have been frequently applied to names of small objects, or articles of small value, terms of a contract of purchase. (See Ducange, Glossarum verbum Barcianiare.) In this sense it is commonly used in an English law; and when a bargain and sale of goods is mentioned, the bargain denotes the arrangement of the bargain or barter, and the sale the part that constitutes the completion of the contract so as to pass the property from the seller to the buyer. In such cases the seller is called the bargainer, and the buyer is termed the bargainer, the seller and buyer together are called the bargainers, and the bargain or barter is described as containing the whole contract of buying and selling personal goods so as effectually to change the property. In order, however, to give validity to this contract, it is essential that there should be a consideration given or promised by the bargainer to the bargainer. Thus if a man undertaking to sell me a horse, and I neither pay him nor promise him any thing for it, this is what the English law, following the civil law, calls medium præterit, a naked bargain, and not a sale, and, being wholly void, will not pass the property as the horse to me.

The term Bargain and Sale is now much more generally used in a more limited sense to denote a kind of conveyance of real property, which derives its effect from the statutes of 26 H. VIII. 36 & 37 Geo. II. For nearly two centuries before that statute, it was the custom throughout England to convey lands to uses that is to say, the legal possession of the land was vested in one person, while the use or beneficial interest was enjoyed by another, while the land was not actually in the possession of the owner. It is said to have been first introduced by the courts of chancery, the courts of law, the courts of admiralty, and the courts of probate for the purposes of evading the statutes of mortmain, which, while they prohibited a direct conveyance to those corporations, did not in terms extend to third persons for the use or benefit of religious houses. This defect was afterwards remedied by the statute of 35 Ric. II. c. 5, which rendered uses subject to the penalties imposed by the statutes of mortmain. But the practice of using conveyances to avoid the statutes of mortmain was continued, and, as much as possible, conveyed all the benefits of a conveyance to a third person, as the surrender of a lease to another, who might then hold under the old lease in the usual manner, no conveyance was in fact made in the name of the person to whom the conveyance was made, and the land still remained in the former owner. Hence it was said that the land was vested in him, and used to interfere with the tenant in the enjoyment of the profits of the land, to be used by them to account for the profits of the land to the consuetudinary use, and to divide it among some according to his discretion. This was the origin of the jurisdiction of Courts of Equity over trusts, which has since assumed so extensive and complicated a shape. The interest in the use being a matter of Courts of Equity, was of course subject to the statutes of mortmain imposed by the same courts, but the uses to pass by the will of contemporaries was not in a land held by a tenant in fee, but it was desirous of being used by common consent, and to this end the tenant in fee was not desirous except by particular Act, for Argus, uses were not subject to such rebate, and were therefore.
riage, except, or any other feudal incident, nor liable for
the debts of coextensive use.

The use being, in contemplation of equity, thus separated from an estate in fee simple, was held, of course, to be an estate in fee simple, and that the alienation of the one might be made without pining with the other. Thus, if a person, possessed of an estate in fee
simple, made a bargain with another that the estate should be his, but retained possession of the property, the Court of Chancery, under the act of 1733, § 2, referred to in the
ancient consideration) looked upon the bargainer as holding the estate to the use of the person from whom the consideration proceeded, and who was, according to the dictates of good con-
science, to be treated as the real owner of the estate. Equity, however, has established the doctrine of quantum
saeclum pactum, refused to compel the performance of any agreements except such as were founded either on good or
valuable consideration. These two classes of contracts gave rise to two new kinds of conveyance, which, though dis-
regarded by the courts of common law, became operative in equity. The first, namely a conveyance on a good con-
sideration, was that where the owner of the estate, in considera-
tion of an intended marriage, or of the love which he bore his actual wife, child, or blood relation, agreed to
hold the estate for the use of such wife, child, or blood relation. This was called a covenant to stand seised,
from the word seisin, which in English law signifies possession of a freehold estate. The other was where the
contract was made with a tenant in fee simple, consisting of such
one consisting of money or money’s worth (as rent, or ser-
service) incident to feudal tenure, and was called a bargain
and sale. It was originally a mere contract for sale; but in
process of time it became a mode of settlement of land, in
which the land passed without possession, and the amount of the consideration, provided it was valuable
according to the technical meaning of the term.

In process of time, the inconvenience of separating the
realty, which would be transferable on a conveyance of the
land, as was found to be sufficient to counterbalance any advantages that might have been acci-
dentally derived from the system. The departure from the
principles of the common law of England, in permitting secret alienations to have the same effect as the open and noto-
torial conveyance, has been held with the system of fraud.
The feudal lords, in particular, suffered by the system of
uses to such an extent, that several legislative enactments
were from time to time introduced in order to remedy the
evil. At length, the legislature, in the 37th year of the reign of Henry III., by a benumbing enactment abolished the
distinction between ownership of the land and ownership of
the use, by transferring uses into possession, that is, to say,
by giving to the person who had formerly only an interest
in the realty, the enjoyment of it. Upon this enactment of
the statute, in 12 Henry III., c. 4, so that where a person before the statute (having a freehold estate in land) had agreed, for good or valuable consideration, that the use of such lands should belong to another, the statute divested the bargainer of all interest in the land, and conveyed the use to the person making the bargain (or, in legal language, the bargaine), the same estate in the land that he formerly had in the use. But it is to
be observed, that if the bargainer had an estate less than
freehold in the land (as an estate for a term of years), the
statute, which provides only for cases where persons are
served to the use of others, was held not to apply. Therefore,
in that case the bargainer was left to his remedy in equity as
before. But in conveyances of freehold estates, the statute gives with a title to the bargainer as he can enforce it in
the courts of Westminster, as it confers on him the
vested interest in the property. The operation of the conveyance has been well described to be of such a nature, that the bargain first vests the use, and then the statute vests the possession in the bargaine.
The word vested is now in every species of real property (except copyhold estates), whether corporeal or incorporeal, whether in possession, reversion, or remainder. Therefore, all such property (if actually in existence at the time of the
creation of the use) may be the subject of conveyance by
bargain and sale under the statute, the statute 27 Hen. VIII. c. 16, provided that no bargain and sale should operate to pass an estate of freehold, unless made by writing indented, sealed, and enrolled in one of the king’s courts of record at Westminster, as witness a notorious attestation of
the justices of the peace, and the clerk of the peace of the county
or counties where the lands bargained and sold lay, or two of them at the least, whereof the clerk of the peace was
or one of them: the enrolment to be made within six months
after the date of the writing. The law required that
conveyance of lands lying within cities, boroughs, or towns
corporate, where the mayor or other officers have authority, or
have lawfully used to enrol any evidences, deeds, or other
grants. A bargain and sale for good consideration, of such lands, operates to all intents and purposes from the date of the conveyance. The writing required by this statute must be a deed; i.e., must be delivered as well as sealed, as the requisition that it be indented implies; for the indented
use of the parchment is, symbol of a duplicate of the
writing being in the hands of another contracting party.

As the statute of enrolments obstructs the operation of the
conveyance until it be enrolled, frequent questions have
arisen respecting the legal rights of the bargainers in the interval between the execution of the bargain and the
enrolment. For most purposes the enrolment has a retro-
spective relation to the delivery of the deed, so as to give it
the same effect as if the enrolment were immediate. But
enrolments have been held to be void if the land is
entitled to the rent incurred between the delivery and the
enrolment, yet if the tenant pay the rent to the bargainer,
the payment is lawful, and the bargainer is not
compellable at law to account for it. Again, it seems that,
if a bargainer before enrolment gives the estate by
bargain and sale to another person, and then enrol the first
deed, the second deed is void, though it be afterwards en-
rolled. So a lease made by a bargainer before enrolment is
entitled to the rent between delivery and enrolment, and if
the bargainer gives the estate to another, the second deed
is void in the same respects. (See Uses.)

The 74th section of the 3rd and 4th Wm. IV. cap. 74, provides that every deed to be enrolled under that act shall take effect as if enrolment had not been required, but shall be void against a purchaser from the bargainer claiming under the deed subsequent in date but enrolled before the other.

Enrolments of bargains and sales of freehold land being
considered as deeds of record have been deemed so far
worthy to be assimilated in their nature to records as to
render a copy of an enrolment admissible, in the first in-
stance, as evidence in a court of law, without any actual
proof of its execution. This cannot be the case with any other kind of deed, except where the original is in
the possession of the adverse party, who refuses, after notice,
given, to produce it. But statute 10 Anne, c. 18, s. 3, in
conformity (as it is said) with former usage, has given to
enrolments of deeds of bargain and sale the same privilege
with other records, by making copies of them of the same
force, when produced in evidence, and thus only the original
copies must be examined with the enrolments and signed
by the proper officer (whence they are called office copies),
and must be proved upon oath to be true copies so examined
and signed. (See Uses.)

Some time after the passing of the Statute of Enrolments
a method of evading the object of it was discovered. The
statute, in terms, only extends to conveyances of estates
of freehold or inheritance. Therefore if a person, being him-
self possessed of an estate for a term of years, or an estate
mentioned in the preamble of 37 Hen. VIII. c. 10, as one of the
principal reasons for their abolition. To prevent the same
objection from arising to the conveyance by bargain and

sale of real property, it was provided by the common
law, that no bargain and sale should operate to pass an
estate of freehold, unless made by writing indented,
sealed, and enrolled in one of the king’s courts of record
at Westminster, as witness a notorious attestation of
the justices of the peace, and the clerk of the peace of the county
or counties where the lands bargained and sold lay, or two of them at the least, whereof the clerk of the peace was
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such bargains for years the legal possession of the land, he was in a condition to receive from the bargainee a release of the freehold reversion for a release of the freehold reversion, for a release of the freehold reversion, and by the rules of the common law can only be made to a person who has already some interest in the land, which enables him to avoid harm of the right requalified. [See Release, Reversion.]

This was the origin of the conveyance by lease and release, which, from its conveniences in effecting a transfer of the legal freehold by the rules of the common law, without any intermediation, has, at some times, superseded every other mode of alienation of freehold property. The modern conveyance by lease and release is therefore a transaction compounded of a bargain and sale and a release at common law, in which the two deeds stand requalified. The first, which is generally a lease by bargain and sale for one year for a nominal consideration, by force of the Statute of Uses, gives the actual legal possession of the land, without a formal entry, to the bargainee. The second, which generally bears date the day after the date of the lease, is a deed of release of the freehold and inheritance of the land to the party who has already obtained possession by virtue of the lease for a year. (For a further account of this mode of conveyance, see Leases and Releases.)

It is, however, to be noted that the Statute of Uses was a rule of law that a corporation could not be seized to a use, so that statute no corporation (even though otherwise not disabled in law from alienation) can convey by bargain and sale. Therefore such a corporation, in order to impose a lease on a man and have him pay rent, operating at the common law; in which case an actual entry upon the land by the lessee and payment of rent must be made before the lessee has such a possession as to enable him to make the use of the rent.

The operative words of transfer commonly used in a deed of bargain and sale are 'bargain and sell;' but it seems that if a man, for a pecuniary consideration, by deed indented, covenant to stand seized to the use of another, or give and enfeof, to the use of another, or to stand seized, to such a deed, if properly enrolled, will operate as a bargain and sale. (Sanders, Uses and Trusts, vol. ii. p. 49.)

A bargain and sale, as well as a lease and release, is said to be a harmless conveyance, i.e. if a person by either of these modes of conveyance fails to have a lease and sale, he may be operated upon by the lessee. The Statutes of Uses and Enrolments are both comprised in the Irish Act (10 Car. 1. sess. 2. c. 1.), but there is no Irish statute relating to copies of enrolments.

BAR-GO-COURSE, a term applied to that part of the tiling of a roof which projects over the eaves, and part of the body, projecting over the external wall of the gable, is succeeded. To protect the stucco from the weather, two boards, called barges-boards, following the inclination of the roof, are often attached to the gables of old English houses, fixed near the eaves, and called barges-course, and laid in the same manner as a roof. In small modern buildings erected in the form of cottages the barge-board is sometimes used, but it is generally meagre in appearance, and does not usually possess the utility of the old barge-board. These boards are divided into two classes, one for roofs and the other for walls.

The window is a word Barge is possibly a corruption of hedge, which is used provincially to express beating in, beating on, and beating down. The barge-board is placed at the gable end of buildings to protect the barge-course from the rain, what would otherwise beat in upon it. The barge-course was therefore possibly a corruption of barge-board. Barge is also a corruption from the Saxon byresian, to board to cover.

BA'RI, TERRA DI, one of the fifteen provinces of the continental part of the kingdom of the Two Sicilies. It extends about eighty miles along the coast of the Adriatic from the river Ovato, the antique Aubazis, which divides it from the province of Capitanata, to within five miles north-west of Ostuni, which is the first town of the Terra d'Otranto on that side. Inland the province of Bar extends about thirty-five miles as far as the range of the Apennines, near Venice, runs in an easterly direction towards the Adriatic, dividing the waters that flow into the Gulf of Taranto. The range divides the province of Bari from that of Brindisi and Altamura, the last town of Bari on the east, and at the foot of the range. It is one of the most populous provinces of the kingdom; and that strip of it which extends along the sea-coast, and about ten miles inland, is one of the most fertile and best-cultivated quarter in Italy. In the year 1783 there were 65,690 families distributed from each other, such as Barletta, Terra di Bari, Bicig cultivated with olives and cucurbits, with a whole population of the province is about 429,500. The interior of the country is much less populous than the maritime districts, vast tracts of it being left for pastures much overgrown with woods. This part is covered with small hills; the valleys are susceptible of good cultivation.

The Terra di Bari and the Terra d'Otranto are called by the natives Puglia piemontese, - stony Puglia, in opposition to the coast of Apulia, the Ionian Islands, &c. There are several manufactures of linen at Molletta, and the wool is carried on in all the maritime towns. The barleys are not fitted for very small vessels. The climate, though very hot, is generally healthy, expect in some spots where the heavy sea by the coast stagnates. A good carriage-road runs along the coast from Barletta to Mola, a distance of forty miles, and from country, called La Marina di Bari, is much bordered by the inhabitants for its fertile appearance and high state of cultivation. Another and a more important road runs parallel to the first, passing through Andria, Ruvo, Bitonto, &c. The province of Bari is administered by an intendant, or civil governor, who resides at Bari, but the civil and criminal courts of judicature established at Trani, and the two towns of Barletta and Bitonto are subdivided into thirty-seven muncipality, each having a magistrate or inferior judge.

BARUM (Bareum, Baryra) under the Romans, and was one of the towns of Apulia. At one epoch it was probably a Cretan colony, though nothing appears to be known as to its age.
a place abounding in fish. After the fall of the Western Empire, Bari was for a time under the Greek emperors, and afterwards under the Langobard Dukes of Benevento. In the ninth century it was taken and plundered by the Saracens, who were called into Apulia by Ratchis, Duke of Benevento, to assist him against the rival Count of Salerno. The Emperor Louis took it from the Saracens in 878, but a few years after the Greeks obtained possession of it. It has been fortified at different times by St. Canzan, or governor of Apulia. In 1070 it was taken by the Normans after a long siege, was re-taken by the Emperor Lotharius in 1137, and again conquered a few years after by Roger, King of Sicily. The most remarkable building is the church which contains the tombs of St. Paul and St. Peter, which were built in 1098, and richly endowed by Roger, Duke of Apulia. The church is a large and venerable Gothic structure. The arches which divide the aisles are supported by double pillars of granite. Among the monuments is a splendid mausoleum of Bona Stora, Dowager Queen of Poland and Duchess of Bari, who died here in 1357. There is also the tomb of Roberto di Bari, protonotary of the kingdom of Sicily, who passed the sentence of death and death; and thirty counting them. These are the climacteric little beetles which feed upon aquatic plants. They are generally of a black colour, and more or less covered with a whitish down.

BARILLA (Spanish, Barilla; German, Soda, Barilla; French, Baril; Dutch, Soda; Italian, Barilla; Portuguese, Soda, Barrilha; Russian, Sosna). Barilla is the commercial name given to the impure carbonate of soda imported into this country, principally from Spain, the Canary Islands, and Sicily. The best is brought from the name, is found to be of a hard and massive consistency; and this, when broken into fragments, is ready for shipment. Barilla of the best quality is of a bluish-grey colour; that which is made from other plants, and which is inferior, is of a colour approaching to black, and of greater specific gravity than barilla made from the plants above-mentioned. The commercial value of barilla, as applicable to the arts, depends upon its purity; that is, upon the quantity of alkali which is contained in a given weight of the substance. This proportion is ascertainable by means of sulphuric acid, the strength of which may be known by its specific gravity. The specific gravity of this acid, which is denoted by its weight of 1:6485, will be ascertained to be 1:6485 by weight of pure carbonate of soda. The barilla of commerce is usually found to contain from 16 to 24 per cent. of its weight of pure carbonate of soda: occasionally some is met with that contains as much as 28 or 29 per cent. In the crude state the alkali of barilla is combined with carbonic acid. The substance likewise contains common salt (chloride of sodium), besides several other foreign ingredients.

The largest consumption of barilla takes place in the making of soap and glass. When employed for soap making, the alkali is separated by solution in water, and then is rendered caustic by the addition of lime, which removes the carbonic acid. This part of the process is necessary, because alkalis will not combine with oleaginous matter to form soap, unless they are in a state of saturation. For making glass, the alkali which barilla contains is used in the form of a carbonate; the carbonic acid is driven off by heat during the progress of the manufacture. It is only when this is removed that glass, which is used generally, which is inferior to barilla, as it contains a larger proportion of neutral salts and carbonaceous matter, and rarely contains beyond 5 or 6 per cent. of its weight of pure alkali.

The consumption of barilla in the United Kingdom, on an average of the last five years, has been 32,600 cwt. annually. Until 1822, it was subject to a duty on importation of 11s. 4d. per cwt., which rate was then reduced to 9s. 3d. per cwt.; in 1832 the former rate was increased to 20s. per cwt.; and at this rate it now stands in our tariff. The barilla imported, during the years 1832 and 1833, were brought from the following countries:

Spain and the Balearic Islands... 134,367 cwt. 74,637 cwt.
Canary Islands... 34,676 111,748
Italy and the Italian Islands... 19,609 19,609
Other places... 1,905 8,482
Total... 180,539 cwt. 114,940 cwt.

(Park's Chemical Essays; Library of Entertaining Knowledge—Vegetable Substances, vol. iii.; Treatise on the Manufacture of Glass, in Lardner's Cyclopædia; Government Statistical Table.)

BARIS, in entomology, a genus of the order Coleoptera, and family Curculionidae. The species of this genus feed upon the dead parts of trees. One of the species, Baris ignabrica, feeds upon the canary in both the larval state and that of the perfect insect. When the little beetle is about to lay its eggs, it generally selects the interior of a hollow tree for that purpose, and bores a hole with its short stout snout in the dead wood, where it is still tolerably sound; then, having accomplished this, it wallows in the powder, deposits its eggs, and dies: the hole being only just the size of its cylindrical body, it thus forms a protection for its young, by stopping the hole so that no other insect can enter. It is not known that it ever attacks any other wood but that where the sap has ceased to flow, and consequently the tree can receive no injury from this little weevil.

BARITA (Zool.), the name given by Cuvier to a genus of birds which he places among the striges, but which Viger considers to belong to the family of crows. These are the characteristic marks of a hard, long, and strong, convex above, slightly hooked at the extremity, near which both mandibles are notched; nostrils lateral, and longitudinal near the base; legs stout; outer toe joined to the middle toe as far as the first joint; inner entirely free; hind foot elongated; claws strong and curved.

Barita Tribena, the piping crow, common in New South

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The properties of barium are, that it resembles silver in appearance: it is much heavier than water, for it sinks even in sulphuric acid, though surrounded by bubbles of gas it oxidizes readily in water by decomposing it, with the evolution of hydrogen gas; a solution of barium is thus obtained. By exposure to the air it is slightly covered with a crust of barities; it fuses before it becomes red hot, and at this temperature it acts upon glass, without being volatilized when exposed to the air, and moderately heated, it burns with a deep red light. It may be flattened a little, so that it comes to a certain extent a malleable metal. Barium has, however, as yet been obtained only in small quantities, and consequently its properties are but imperfectly known.

**Oxygen and barium** combine to form two compounds viz., the protoxide usually called barytes or baryte, and the peroxide or barium oxide. The first of these oxides occurs largely in nature, and was discovered in the year 1774 by Scheele; its name is derived from Barys (Barys), heavy. Barytes is met with combined with sulphuric acid, forming Barys upon or could form a tarnished sulphate of barium, and with carbonic acid, constituting the mineral tarnished witherite, or carbonate of barium; it may be procured by decomposing either of these native compounds. The simplest mode, when it is wanted free from water, is to convert the compound into nitrate of barytes, and thus when strongly heated in an earthen crucible is decomposed, and the nitrate being expelled, the barities remaining has the following properties:— It is of greyish white colour; when moistened with water it becomes very hot, and in a short time falls into white powder; if more water is added to it, it becomes crystalline and very hard mass. The specific gravity of barytes is about 4.0; it is extremely poisonous, has an acid, alkaline, caustic taste, and requires a high temperature to fuse it.

Barytes, or the protoxide of barium, is composed of, according to . . . Berzelius. Thomson.

<table>
<thead>
<tr>
<th>Equivalent Oxygen</th>
<th>1 equivalent oxygen</th>
<th>8</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 do. barium</td>
<td>68.66</td>
<td>68.66</td>
<td>68.66</td>
</tr>
<tr>
<td>Equivalent</td>
<td>76.66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Barytes and water combine** and form at least two compounds: the first, hydrate, appears to be procured when a small quantity of water is poured upon barytes, and during their action, it becomes heay and a white powder having no acid reaction, and the barytes becomes a white powder: thus probably contains one equivalent of water. It is fusible at a red heat, but does not part with its water even when heated to whiteness.

According to Davy, 20 parts of water at 60° dissolve one part of barytes: the solution is called **barytes water**, and is frequently used as a chemical reagent, especially in determining the proportion of carbonate in gaseous mixtures; with this barytes forms a salt both barytes and barytes water speedily acquire carbonate by exposure to the air. Barytes water acts strongly as an alkali, converting vegetable yellow to browning and red to green, and saturating acids. Water at 215° dissolves, by Davy's experiment, half the weight of barytes, of which a considerable portion separates in the state of crystals in the solution cool: these crystals contain ten equivalents of water.

**Peroxide of barytes** is prepared by heating barytes to two redness in a platinum crucible, gradually adding to it about one fourth of its weight of chlorates of potash; this yields oxygen to the barytes, or protoxide of barytes, which becomes peroxide, but mixed with chlorate of potash, which may be dissolved by cold water: the peroxide of barytes is thus dissolved, combined with water it may also be prepared by passing oxygen gas over barytes heated to redness. It is composed of two equivalents of oxygen and one equivalent of barium. It is decomposed by acids, and is used only in preparing the peroxide of hydrogen.

Neither oxygen nor hydrogen unites with barium. **Chloride and barium combine to form one chloride, consisting of** . . . Berzelius. Thomson.

<table>
<thead>
<tr>
<th>Equivalent of Chloride</th>
<th>1 equivalent of chloride</th>
<th>26</th>
<th>26</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 do. barium</td>
<td>68.66</td>
<td>68.66</td>
<td>68.66</td>
</tr>
<tr>
<td>Equivalent</td>
<td>104.13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The best mode of preparing the chloride of barium in minute carbonate of barium in murrays acid, evaporate the substance so as to obtain crystals, and then to decompose them at a
by the fixed alkalis and their carbonates, and by carbonate of ammonia; it is also decomposed by sulphuric acid, and the sulphates which precipitate sulphate of barytes.

According to Mischke, when this salt crystallizes at the temperature of 55° Fahrenheit, it contains only 6 per cent. of water; but when below this temperature it contains, as above stated, about 17½ per cent. of water of crystallization.

Carbonate of barytes. This substance occurs to a considerable extent as a mineral product, and is by mineralogists sometimes called witherite. It is a dense substance, its specific gravity being about 4.33; it is sometimes fluorescent and seems colourless, but is often opaque. It sometimes occurs crystallized, and the primary form is a right rhomboic prism, but it usually has the form of a six-sided prism.

Carbonate of barytes is so nearly insoluble in water as to require from about 43° to 58° for solution; and it is entirely insoluble in water containing any salt in solution. It is poisonous, and suffers no change by exposure to the air; when strongly heated with charcoal it is decomposed, and on the addition of water a solution of barytes is obtained. It consists, according to Dr. Thomson, of

1 equivalent of carbonate acid 
1 equivalent of barytes

89

It is used for the purpose of dissolving in various acids to procure barytic salts, and, when heated with charcoal, also for preparing barytes, especially when it is wanted merely in solution in water. Bicarbonate and sesquicarbonate of barytes may be formed, but they are unimportant compounds.

Muriate of barytes.—This salt may be procured by saturating the acid with barytes, or more economically by decomposing the sulphate of baryum or carbonate of barytes with the acid. The solution, when pure, is colourless, and by evaporation yields rhomboic crystals of muriate, composed of nearly

1 equivalent of muriatic acid
1 do. barytes
1 do. water

92

These crystals dissolve in five parts of water at 60°, and in a smaller quantity of boiling water. They are not altered by exposure to the air. When exposed to a red heat, 122 parts of the crystals yield 18 parts of water, and 104 parts of chloride of baryum remain.

This salt is decomposed by the same substances as produce this effect upon the acetate. It is used as a chemical re-agent.

Nitrate of barytes is readily procured by adding nitric acid either to barytes, its carbonate, or to the solution of sulphate of baryum. The solution is colorless, and when evaporated yields crystals, the form of which is the regular octahedron.

This salt requires 12 times its weight of water at 60° for solution, and between 3 and 4 times its weight at 210°. It is not altered by exposure to the air, but when strongly heated it is, as already noticed, decomposed, and barytes remains in a pure state. This salt consists of, according to Dr. Thomson,

1 equivalent of acid
1 do. barytes

139

The crystals contain no water.

Sulphate of barytes.—This compound occurs largely in many parts of the north of England: it occurs both amorphous and crystallised. In the former state it is sometimes colourless and transparent, and frequently opaque. The crystals are often large, and the primary form, subject to very variations, is a rhomboic prism. It is extremely heavy, its specific gravity being about 4.7. It is unalterable in the air, insipid, and insoluble in water; indeed, strong sulphuric acid is the only fluid which dissolves it in any notable quantity, from this it is precipitated by water. It is composed of, very nearly,

1 equivalent of acetic acid
1 do. barytes
1 do. water

51
76
27

The taste of this salt is saline and bitter: it is decomposed...
The nature crystals contain no water.

Heat produces no decomposition in sulphate of barytes; but, as already noticed, when heated with charcoal, it is converted into sulfuretted baryum. When boiled also in a solution of carbonate of potash, a portion of it is converted into carbonate of barytes; but the decomposition takes place only to a limited extent.

Sulphate of barytes is formed whenever a soluble sulphate is added to a solution either of barytes or any salt of barytes. It is on account of the extreme insolubility of this salt that it and sulphuric acid, and all sulphates, are used as tests of each other’s presence.

When sulphate of barytes is only moderately heated with carbonaceous matters a socalled phosphorus is formed, which is called the Resistant Phosphorus. [See Phosphorus.]

BARJOLS, a town in France, in the department of Var. 413 miles S.S. R. of Paris, in 43° 34’ N. lat., 6° 9’ long. It is on the left bank of a small stream which flows into the Argens, of which river the western part of the department forms the basin. The time of the foundation of this town is uncertain. In 660 it belonged to Raimund or Raimbaut, Archbishop of Arles, who bestowed the town on the church of Notre Dame de l’Espina, which he founded here in 606. The then reigning pope, Alexander II., exempted this church from the jurisdiction of the Bishop of Frejus, in consideration of an annual tributary of 120 beans; but the Bishop of Frejus resisted the exemption, and succeeded at last in bringing the church, on certain conditions, under his superintendence. This church was collegiate; among other relics, it contained the body of St. Marcel, Bishop of Die; but the Calvins having in 1562 become masters of the town, burnt the relic, and the townsman were only able to preserve one of the fingers. Before the Revolution there were at Barjols a convent of monks of the order of St. Augustin, and a number of churches. The trade of the town is carried on in cloth, oil, brandy, paper, leather, and silk. Leather is manufactured in considerable quantity; the Dictionnaire Universal de la France (Paris, 1804) assigns to the town sixteen tan-yards. The manufactures of paper, silk-twist, earthenware, and white wax, are less important. The population in 1832 was 3512. In the Dictionnaire des Gaules it is mentioned that three considerable fairs were held yearly.

In the interior of the country is of one of the former convents in this place (called the Convent of the Carmelites—but we have no account of that having a house here) are some remarkable congelations, in which the spectators imagine they can recognize the figures of animals and flowers. Subterranean caverns also offer remarkable specimens of art. From these caverns sandstone for glass works is procured.

The country round is very delightful. There is a silver mine near the town, but whether it is now worked does not appear from our authorities. [Expiry, Dictionnaire des Gaules, etc.; Dictionnaire Universal de la France, etc.]

BARK, in vegetable physiology, is the external coating of the stem and branches of plants, ensheathing the wood. In woody Exogenes it separates spontaneously from the wood in spring and summer, and in herbaceous plants of the same class it may be easily removed with a little care; but in Endogenes and Acrogenes it is so continuous with the central part of the stem, that it can never be divided except by violence, and by lacetrating the tissue which has immediately below it. This difference arises from the manner in which the plants of these three great natural classes respectively grow. Exogenes add annually new matter to the inside of their bark and the outside of their wood, which renders it necessary that a spontaneous separation of wood and bark should take place in order to make room for the newly generated substance; but Endogenes, which grow by addition to their centre, and Acrogenes, by elongation of the bark, require no such separation. [See Exogenes and Endogenes, and for Acrogenes, a word of very recent invention, see the article Botany.]

Bark may be considered to originate thus:—When a plant is in the stage of embryo, that part which finally develops into a stem and root, or, as botanists say, into the axis of growth, is something like two cones applied to each other by their bases, but it will simplify our ideas if we consider it as a cylinder. In a dormant state it is cellular but cellular substance; but in Exogenes, as soon as the epidermis, or seed-leaves, are resolved into growth, woody matter is generated in the form of a number of little bundles, which are arranged in a circle (a) about half way from the circumference, thus forming a sort of hollow cylinder within the first. The cylinder so commenced forms the cellular substance into two parts: one central (b), where finally becomes pith, and the other external (c), which becomes bark; the two maintaining their connection by means of the passages (d) between the woody bundles (a). The direction thus given in the beginning to the several parts in the interior of an Exogene stem is never afterwards departed from; but all the additions which are subsequently made are moulded, as it were, upon that original framework. The woody bundles (a) increase in size by growtherwards inwards, and consequently the medullary passages are extended; the bark continues to grow and give way to the pressure of the wood from within, till at last a year’s increment has been accomplished. Up to this time the separation between the wood and bark is still a loose one; but in the second year, as it is necessary for the new matter to be added to the outside of the wood to the inside of the bark (at d), a spontaneous separation of the two takes place over the whole surface of the wood, the medullary processes softening, stretching, and growing externally—order to admit of such a separation. But Endogenes and Acrogenes always retain their bark in the same manner as the wood as it is in Exogenes at the end of the first year, there being no necessity for a separation between the two in order to admit of subsequent growth.

In its anatomical structure bark consists of a mass of cellular tissue pierced longitudinally by woody matter, which is composed entirely of woody tubules without any trace of vessels, but which is sometimes interspersed with cavities, in which resinous, or milky, or juicy, or other secretions are lodged. [See Vascular Tissue.] The only known exceptions to the rule, that vessels are never found in wood, occur in certain plants, where they have been discovered by Dr. Lindley. Their presence in this part seems to be explained by the nature of their formation. For, as there is the best reason to believe, they are in one state required to furnish a constant supply of oxygen to the newly forming organs, or, in another state, their diffusion conveys fluid with great rapidity to the growing leaves, which would, in either state be useless in the bark, which as will presently be shown, is not the channel through which the organizing principles are conveyed, but merely a passageway for the return of matter after its organizing effects have been accomplished.

In the first year of its existence bark is a cylinder in the woody matter of which is a continuation of that of the v. e., itself. In Endogenes and Arrogenes it undergoes a natural increase in the substance of its parts as the parts are increased in quantity without shifting that proportion. But in Exogenes, in consequence of these word breaks, annually augmented by external additions, as we have stated, the bark undergoes annual changes. Corresponding with the annual additions to the wood, the annual additions to the inside of the bark, consisting of a cellular layer overspread with the whole of the inside, and then a layer of woody matter, which answers to the space of wood enclosed between the medullary passages. These annual additions, which are called the fiber (whence, books, which were written upon such layers properly prepared, were called serif), must therefore be exactly the same in number as the annual layers of wood, and would be arranged with equal regularity if the bark were not affected by any disturbing causes. But o
consequence of the wood's perpetual increase in diameter, there is an incessant lateral strain upon the liber, so that after the first year there is little trace of regularity to be discovered in the structure of the bark. It soon becomes a more confused mass of wood and bark, and the layers which all trace of annual concentric formation has disappeared. The manner in which it was originally generated is, however, said to be detected in some plants, by the facility with which the bark will peel into layer after layer; but it may be that this phenomenon is connected with the original arrangement of the ultimate vessels of the bark than with the annual formations. These layers are sometimes so numerous, that as many as 150 have been separated on a single tree.

When the bark is overlaid with a thin transparent skin, which may be peeled off, and which allows the green matter with which its cells are at that time filled to be seen through it [see Cuticle]; but this is soon ruptured by exposure to the sun and wind, and is never renewed. The green matter, also, after exposure to the air, becomes brown, and loses its vitality; so that the bark of an exogenous tree consists, after a year or two, of dry matter in the inside, and of dead matter on the outside. There is a perpetual transpiration through the skin that protuberates, which is easily-formed wood and its own liber from the effect of changes in temperature. This is more amply provided for in trees of cold climates than in those of hot ones. For example, the bark of the Douglas fir, which bears the utmost inclemency of cold in its native territories, is cut out of it in inches thick; and in the birches, which are among the most hardy of northern trees, it is the quantity of air which lies among the tissues that gives to their bark the white appearance for which it is remarkable, and that, from its buoyancy, renders it particularly well-adapted for the sides of casks.

Another of its offices is, to act as the channel through which the fluids that are elaborated in the leaves descend towards the roots, and reach the heart of the stem. Connected as it is with the medullary rays by myriads of points over whose internal face, it is admirably adapted for keeping up a communication between the centre and the circumference of a tree. The woody tubes of its liber furnish a ready mode of descent for those fluid substances, such as gum and resin, which are obtained from the exterior. But it is in its liber that wood; while its cellular matter serves for the gradual percolation downward of those other secretions which are intended to pass into the medullary processes; and the looseness of its texture readily admits of the formation of the fluid that is to be conveyed, in its liber, as matter like resin may be stored up. Dutrochet, indeed, has asserted that bark also acts as a conveyance for fluids upwards; but if this happens at all it must be in a very slight degree, or in cases where bark acts as an universal leaf, of which it is now essentially a branch, when the part above the liber is swelled by the descending matter which collects there, while the part below the liber will undergo no alteration.

Such being the function of the bark, we are able to understand why trees do not immediately perish when large pieces of their bark are torn off at a single operation. They can even exist some months after having been larked by the tanner. The young wood carries up the nutritive fluids whether the bark is present or not, and it is extremely probable that when much of the exterior portion of the wood has its functions altered, and may make but temporary conveyance for the returning sap; but when wounds are very large this cannot happen for any great length of time, because a renovation of the wood, which, when young, sprouts from the cork-socket and becomes active in the absence of bark, its natural guardian. When wounds are considerable, the upper lip of the bark gradually grows downwards till it meets the lower lip, where an adhesion takes place, and the wound heals over; or, in some cases, the mouths of the medullary processes, which are laid bare by the removal of the bark, will form granulations which gradually extend over the whole surface of the wound, and so repair the loss of the bark itself; or, finally, if the wound be so sudden and so extensive as to cut off, a lateral transfusion of the descending sap will take place, and the whole of the returning current will be gradually diverted to the channel of communication which then remains; but if none of the above circumstances take place, the plant must eventually die from the loss of its bark, at least is unquestionably the case with Exogens: whether or not the destruction of the cortical integument of Endogens is equally important is not so certain; possibly it is not, for it is probable that in those plants the bark acts merely as a pressure, and that it has little or nothing to do with the march of the fluids.

It sometimes happens that bark has another and a different function to perform, as in what are called succulent plants, which have no leaves except rudimentary organs, and are, besides, incapable of forming large quantities of resin and gum. These are the fleshy stems of the acacias, the eucalyptus, and coti. In these subjects the bark undoubtedly performs the function of the leaves themselves [see Lax]; and in this case it is presumed that if there is any transpiration of elaborated fluid towards the roots, it is to be replaced by means of some especial contrivance, of which we have no precise knowledge.

It is in consequence of the bark being both the channel through which the elaborated sap descends, and the receptacle in which it is partly stored up, that it is said to contain a so much larger proportion of the chemical principles of a plant than any other organ. It is in bark that we find the essential principles of the oak, the larch, and other trees used for tannery; and that of the rhodora, and other aromatic or febrifugal species; and that we procure, by wounding it, matters as resin and gum, which readily flow from incisions made in it. As all such secretions are formed by the leaves, and become solidified by the loss of water, it is easy to see the connexion of the one with the other, to follow that the proper time for collecting them is at the period when the leaves have performed their office for the year, and all superfluity of moisture has been parted with; this period is winter, or the season of torpor. But at that time the liber adheres firmly to the wood, the spring is more frequently chosen for bark- ing; and theory would say, that the proper time is just at the moment when the sap begins to be in motion, and the liber and sap to separate, and before the secretions have been diluted or dissolved by the ascent of the sap from the earth; and that the bark will contain the nature of the substance which is sought for; for example, the greatest quantity of tannin is found in the youngest liber; therefore, bark for tanners' purposes should be stripped just before it begins to separate from the wood after the latter is fully matured, and when they are in full action; because at that time the whole of the liber which is formed during the year is developed, and few chemical changes have begun to take place in its constituent parts. Turpentines, again, will only be obtained in the summer; and for the bark, to be obtained by a spontaneous emission must be sought for at that season.

Independently of its chemical properties, bark is of great occasional importance for its organic products. The wood of many trees of the liber kind, such as the birch, and others; and ropes have been manufactured from that of the willow, the lime, the cocoa nut, the hibiscus trilobatus, and many
other plants. The liber of the lime-tree, the bread-fruit-tree, and the paper mulberry is torn into slips and manufactured into useful mats; or, if left to itself, it is too hard for human to be used as linen. A most elegant preparation of the liber is obtained from the lace-bark tree of Jamaica, a kind of spurge-laurel (Daphne); in that plant it is very white, and separates freely. If this stuff be boiled, it may be entirely converted into a substance very much resembling lace. This is effected simply by pulling the liber sideways, when its woody tubules separate into a delicate net-work of lozenge-shaped meshes.

This is the double-beds which are formed of the spent bark used by tanners, placed in the inside of a brick-pit in a glazed house, constructed for forcing, or for the growth of tender plants.

The object of a bark-bed is to produce artificial warmth by the fermentation of the materials of which it consists, and at the same time to keep the atmosphere of the house constantly damp. Gardeners use it for all plants which require what they call bottom heat. But it is not employed to the same extent in the cultivation of greenhouse plants, except sometimes for striking their cuttings. [See CUTTINGS.]

A bark-bed, the coarsest bark which can be obtained after the tanners have used it, is the commonest. It is used for the plants which require the most heat and are most liable to injury. It is usually made of the bark of the oak, but birch, maple, and holly bark are also used.

The heat of a bark-bed is not so uniform as that of a hot-house, but it is still very valuable. It can be used for a variety of plants, and it is especially useful for the propagation of tender plants. The principal kinds of these classes, of which we shall give some account, are—Oak Bark, Dairy Bark, Wattle Bark, and Quercus Bark.

Among the descriptions of bark used for propagating plants we shall notice only that known under the name of Olearia or Persimmon Bark: the others are not of much commercial importance. The British, the Scotch, and the Cassia, will be noticed in other parts of this work.

Oak Bark.—(German, Eichenrinde, Lahe; Dutch, Rijswier, Russe; Danish, Bark, Gerberbank; Swedish, Bark, Ettkor.)

Bark-bed, Ecorce de Chataignier; Italian, Quercia; Spanish, Quercus; French, Quercus; Russian, Quercus; Portuguese, Casca do Carvalho; Russian, Dukhov Kora; Polish, Dub Garbarski; Latvian, Quercus Cordis.)

For a long time, oak-bark was the only substance used in England for the purpose of tanning, and it was then employed for ages, without the tanners knowing or imagining the properties of the substance which produced the changes whereby hides are converted into leather. The increasing demand for oak-bark beyond the means of supply so raised its price that it became necessary, in order to ascertain whether, when the nature of those properties was discovered, some cheaper substance might be found to answer as substitutes.

Other substances besides oak-bark had been used for making the same purpose. Among these substances were heath, gall-nuts, birch-tree bark, myrtle-leaves, leaves of wild laurel, and willow-bark. In 1783 oak saw-dust was applied with some success in England, and has been since more extensively used in Germany.

The result of investigations showed that the tanning power of oak-bark resided in a particular constituent substance, to which, from the use to which it is applied, the name of Tannin has been given. In more recent times, Tannin has been determined, by a series of experiments, etc.
value to the tanner of different substances in which tannin as found; and he has shown that 54 lbs. of oak-bark are in, the tanning of leather, and that this substance upon skins may be explained in a few words. Before the skin is subjected to the tanning process, the hair, epidermis, and any flabby or fatty parts adhering to them, must be removed; the remainder consists wholly of gelatine, a substance capable of being impregnated with tannin, and has the same cohesive property, strength, and resistance well known as glue. Tannin, as we have seen, is likewise readily soluble in water; but the two substances, when brought together, form the insoluble and impregnable compound called leather.

It has been found that the proportion of tannin which oak-bark contains varies materially according to the season in which it is cut. If taken in the spring, it has four and a half times the quantity, in a given weight, compared with what it has at any other season. Pavy likewise discovered that the proportion is influenced by the age of the tree, tannin being more abundant in the bark of young than of old trees.

In the bounds of the Custom House no distinction is made between the different descriptions of bark used for tanning and dyeing; so that we do not know exactly the quantity of oak-bark which we receive from foreign countries. A very near approximation to the truth may be made, however, by computing the number of the imports. The import of oak-bark during the three years 1823, 1825, and 1826, was 34,531 cwt., nearly the whole of which comes from Portugal, whence it is brought principally as dunnage in ships loaded with wine. It pays a duty on importation of 6d. per cwt. A protecting duty in favour of the cork-cutters of Portugal is imposed upon manufactured corks, amounting to 7s. per lb.

**Mimoa, or Walnut Bark.** This bark is collected from two species of the walnut tree, which are peculiar to New South Wales, Van Diemen's Land, and New Zealand, where, at least in the British settlements, it is used for the manufacture of leather. This bark contains about 150 lbs. of pure tannin in every ton weight, which is only about one-fifth of the quantity in oak-bark. It is also said that it gives a reddish colour to the leather, which, although it does not actually lower its value, creates a prejudice against it in the market. As long ago as the year 1693 a small quantity of fluid extract of this bark was brought to London from Australia, and, after having been subjected to trial by some tanners, was purchased by them. Since that time, importations of the bark in its crude state, as well as in the form of an extract, have continually increased. The importations of this bark during the years 1832 and 1833, were 28,410 and 24,540 cwt., respectively; it is subject to the nominal duty of 1d. per cwt.

**Quercus Cerris Bark.** This name has been given to the bark of a description of oak, the quercus nigra, or tinctoria, which is a native of North America. It is used as a dyeing stuff for imparting a yellow colour, the different shades of which depend upon the choice of the substance employed as a mordant. This bark was first brought to this country during the years 1832 and 1833, by Dr. Bancroft, who obtained an exclusive patent for its application to this purpose. The colouring matter resides wholly in the inner bark of the tree; the outer bark is therefore removed previous to its being packed in casks for exportation. Quercus Cerris bark, in a ground in a mill gives out its colouring matter to water when heated to the temperature of 100° Fahrenheit. If a higher degree of heat be used, the tannin which the bark contains will also be dissolved, and this will impart a brown colour to the dye which it is desirable to avoid. For this reason the dye must always be separated from the bark before it is used. The colouring matter obtained from the quercus-cerris-bark of commerce is equal to that yielded by eight or ten times its weight of tannin. The average annual consumption of quercus-cerris bark in this country, during the five years ending with 1831, was 22,623 cwt. Since that time no separate account of this article has been kept at the Custom House: it is subject to an import duty of 6d. per cwt.

**Peruvian Bark.** German, Chinamarine, Ribberinde; Dutch, Kina, Quinquina; Danish, Kina, Chinamarke; Swedish, Ribberbank; French, Quinquina; Italian, Chinina, Chinese Quinquina; Portuguese, Quina; Russian, Chine; Polish, Kiewska; Latin, Cinchona, Cortes Peruvianus.

Three principal species of this bark are known in commerce, viz., the pale, the red, and the yellow Peruvian bark. The first of these, the original cinchona of Peru, is now become scarce. It is the produce of the cinchona lanceolata, and is imported in chests, each containing 200lbs. weight, and carefully covered with skins. It comes in quilled pieces from eight to ten inches long. The inner bark contains the principal medicinal virtues, and is similar in colour to a pale lemon or orange, the outer bark being of a darker shade; the inner bark contains the principal medicinal virtues, and is similar in colour to a pale lemon or orange. It
is nearly odourless when dry, but is very sensibly aromatic
while under the process of decoction.
A species of the Cinchona oblongifolia, which is found growing on the Andes. It is imported in various-
sized pieces packed in chests, containing each from 100 to
150 lbs. Its colour is that of a reddish brown; its taste is
not so bitter as that of the pale variety, but greatly more
mellow.

Yellow Peruvian bark was first brought into use in
England about the year 1790: it is obtained from the cinchona
cordifolia, which grows at Quito and Santa Fé. This variety
is larger, and its bark is redder and thicker, from eight
to ten inches in length, packed in chests containing
from 90 to 100 lbs. each. The colour approaches to that
of an orange; it gives out, in decoction, an odour very similar
to that of pale bark; its taste is more bitter, but it is not
nearly so valuable as is judged by the colour; it loses
its orange tint, and takes that of yellow, it is not so
valuable, and it is still worse when of a dark colour, be-
tween red and yellow.

It is said that the native Indians were unacquainted with
the medicinal virtues of this bark, and that its efficacy in
cases of fever was accidentally discovered by the Jesuits,
whence the name, by which it is very generally known, of
Jesuits' bark. It was first brought to Europe in 1832, but
more fully in 1838, a larger supply having arrived before
the Jesuits left their country, which became all extensive in this quarter of the world.

Bark, Peruvian, Medical Uses of. (See Cinchona.)

BARK, PERUVIAN, MEDICAL USES OF. (See
Cinchona.)

JEZEBEL BARAK, a remarkable sandstone-
rock in Nubia, which stands isolated about a mile from
the right bank of the Nile, near the village of Merowe, and in
the district of the Sheikia Arabs, which now forms part of
the government of Dongola under the Pacha of Egypt.
Barak is in 11° 31' N. lat., and 31° 46' E. long. The rock rises
abruptly on all sides, and quite perpendicularly on the side
towards the river, to the height of nearly 400 feet, forming
a wide plateau at the summit. Its circumference at the
base is about five miles in extent. It is evident, from
the number of several great temples at the foot of it, that it
was a spot devoted in very remote times to religious rites.
The temples, which are five or six in number, lie between
the mountain and the river. The most remarkable are the
one near the river, and the one at the foot of the Great Temple. The
Typhonum, the best preserved of all, was dedicated to
Typhon, or the evil genius, as appears from several figures of
Typhon still remaining. The temple is 108 feet in length;
its entrance faces the S. E. The fore-part of the temple is a
regular construction; and the further or inner part
is excavated in the rock itself. In the first hall, or vestibule,
are eight pillars with figures of Typhon, four on
each side, forming the central avenue, or aisle, leading to a
second chamber, which was covered by a stone roof sup-
sported by eight pillars with Isis-headed capitals. The pillars
are 34 feet in diameter and 18 feet high. The natives assured
Ruppel, in a line S. E. by S. and N. W. by N., the base
being to the S. E. It is said, that those who are looking towards the N. E. are thicker than those on the
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Near the Typhonum and the Great Temple, the steps are made of brick, fragments of the lower wall of which
are still seen about two feet above the ground. Before the entrance of this building, two fine lines of red granite
found reclining at full length and looking towards each other.
They are about seven feet in length. One of the two
broken into several pieces when first seen in 1829. A Narrative of the Expedition to Dongola and Asyut.
J. Murray, London, 1829.)

Three columns are brought from Barkal by Lord
Petrie, in 1828, and are now at the entrance of the
new Egyptian Room in the British Museum. The stone
is a flesh-coloured granite; and the execution of a high degree of merit, though one of the animals is
very well drawn, the other is only in a very poor condition, one lying on his right side and the other on the left.
Both are hieroglyphs and cartouches, and are supposed to
name, on both of the figures.
A quarter of an hour's distance from Barkal, and both in the N. W. and S. W., are two small pyramids, of various sizes, many of them in good
survival. The largest of these which are covered with
40 feet high. Several of them have small exterior tem-
path, attached to one side, with an outer door and an
upway, been constructed. The interior walls of these temples are ornamented with hieroglyphs and representations of apotropaic devices.
roofs of the temples are flat, but one of them is very

 Tâmple, which is one of the largest monu-
ment in Nubia, near east of the Typhonum, and is at
some distance from it. It is likewise divided into halls
or chambers, and was entirely a composition of square
The walls are now a heap of ruins, and the bases and fragments
of its seventy-eight pillars are discernible. Two enor-
ous propylae, each 45 French feet long and nearly 40
feet in thickness, form the front of the temple; the entrance
between them is 15 feet wide. The first, or outer hall, is
118 feet long and somewhat less in width; the lateral walls
are seven feet thick. This hall, which was adorned with
several large pillars, was divided from the second hall
by propyla 21 feet thick, between which is the entrance 13
feet wide. The second hall is 146 feet long and 60 feet
wide. It had at the farthest end, leading towards the
main temple, a portico consisting of pillars, with a stone
roof; the whole is now fallen to the ground. Only one of the pillars was standing when Mr. Wedd-
nin visited Barkal: it was 94 feet in height, and was composed of sixteen pieces of stone. The
main temple is 218 feet in length, and was divided
by partition walls from two lateral chambers of
smaller dimensions. The middle chamber has two rows
each of pillars, with as many sculptured figures on
between each two pillars, and each of these pillars
has been bole a aisle. A passage 13 feet wide, like the
others in a line with the outer entrance of the temple,
leads from this chamber into the next. It is 96 feet square
and stands, like the preceding, between two lateral cham-
bers. At the farthest end, facing the entrance, as on the
side of grey granite, four feet nine inches square at the base;
the sides are beautifully sculptured, though injured in some
places. Of the two lateral chambers, one forms a niche
with its small vestibule and sanctuary; but the other, or
it leads from the remainder of the temple, the only entrance to it, is by a passage through the exterior wall. Just outside of
this passage stands an altar of freestones, about 10 feet
long; the sides have bas-reliefs, representing scenes of both
kinds, and the altar is now placed with a hand sculptured figures.
Two vultures are behind them, as if eager to feast on their
bodies. These are indications of human sacrifice once
in practice here. Within the inclosed chamber is a
pillar beautifully polished and gilded. (See Chemistry; Library of Entertain-
ment, Knowledge, Vegetable Substances, vols. i. and ii.;
Government Statistical Tables.)

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however, acknowledges that his ground-plan with some
difference, owing to the ruin-
may have formed part of the Necropolis of Napata, the antient Ethiopian city which some suppose to have stood near this place. With regard to the great temples, Rüppel ascribes most of them to the age of Ethiopian greatness, after that nation had conquered Egypt, or about the eighth century before Christ. These ruins remained unknown to Europeans till 1820, when the expedition of Ismayl Pacha penetrated into Dongola and Sennar. The first European traveler who visited the Wady was Mr. Washington; he was followed by Caillaud in 1821; then appeared Mr. Rümker, followed by Dr. Rüppel in 1824-5, who has given a very minute description of them, from which the above details are mainly taken.

Washington's and Hanbury's Visit to Ethiopia; Caillaud, Voyage a Merowe; Rüppel, Reisen in Nahben, Kordofan, and Herreischen Arabern.

BARKING, a market-town in the county of Essex, about nine miles east of London. It lies in the hundred of Barking, in the old county of Essex, and is included in the Barking, the circumference of which is about thirty miles: this parish contains 16,170 acres, of which 7850 is cultivated land, and about 1500 belonging to Hastings Forest, which includes within its limits the well-known Fairlop Oak; under the shade of which a fair is held on the first Saturday of July. The manor was originally known as the Berching, Bereshing, Berking, in old records; and some antiquarians derive it from Burghing - 'The fortification in the meadow.' Some considerable encroachments are still visible, and a mound of earth near the church is said to have been the richest nunnery and the oldest foundation in England; but this is an error, as Fulkstone nunnery in Kent was founded many years before, and both Shalford and Syon nunneries were possessed of larger revenues. The Abbey was founded in the year 677, in the reigns of Sebbhe and Sigfhe, kings of the East Saxons, by St. Erkenwald, bishop of London, at the instance of his sister Etheldis, who was also made abbess. The building and several of the following abbesses were canonized after death, and were venerated by the Danes, and the nuns were enfeoffed. Being within the territories ceded by Alfred to Godrun, the Danish king, it lay desolate until the middle of the tenth century, when it was rebuilt and restored to all its former splendour by King Edgar, the great founder and restorer of religious houses. Some histognostic states, that at the Norman conquest the Conqueror retired to this abbey soon after his arrival in England, and remained there till the completion of the new abbey church, and the restoration of the church of London. In subsequent times the government of the abbey was sometimes assumed by the queens of England; and a natural daughter of a king or prince of the blood is occasionally found occupying the office of abbess. In 1377 the convent petitioned to be excused from contributing an aid to the king at the time of a threatened invasion, on account of the expenses which they had been obliged to incur in repairing the great damages occasioned by a terrible inundation which in the preceding year had broken down the banks of the Thames at Dagenham; a similar statement was often made at subsequent periods: and in 1410 it is stated that the revenues of the convent were so much impaired, in consequence of the expenditure made necessary by inundations, that it had more than fourteen shillings a-year for clothes and necessaries.

A considerable extent of ground called the Level, near the Thames, lies very low, so that in high tides the water is higher than this land, and would overflow it if not kept out by embankments. Before an embankment was made on this coast, a great inundation occurred, and the whole country was thrown into a series of breaches of the embankment. In 1707 a breach was made by a high tide, which occasioned the loss of 1000 acres of rich land, and a sand-bank was formed at the mouth of the breach which reached almost half-way across the river. In 1711 the river, by filling up the breach, caused those persons who spent more land was the land was worth in endearing to recover it, and then applied to parliament, which took up the matter as a public concern; and after the failure of another party in the attempt, a Captain Perry engaged to close the breach, make good the embankments, and remove the sand-bank, for the sum of 28,000l. He completed this engagement at the end of five years, but at an expense of 15,000l, beyond his estimate, which was made towards made good to him by parliament. The whole bank is now kept in a very complete state of repair under the superintendence of commissioners. The bank is from nine to fourteen feet in height, and a path extends along the top of the whole district.

The nuns of Barking were of the Benedictine order. The abbess was appointed by the king until about the year 1200, when, by the intercession of the Pope, the election was reserved to the convent, and confirmed by the royal authority. The abbess of Barking was one of the four baronesses in right of their station; for being possessed of thirteen knight's fees and a half, she held her lands of the king as a barony; and though her sex prevented her from having a seat in parliament or attending the king in the wars, yet she always furnished her quota of men and had precedence over other abbesses. In her convent she lived in great state; her household consisted of chaplains, an esquire, gentlemen, gentlewomen, yeomen, grooms, a clerk, a porter, a baron, a banner-bearer, and a chaplain. The last abbess was Dorothy Balry, who had a pension of 133l. 6s. 8d. per annum settled on her when the convent was surrendered to Henry VIII. in 1539: smaller pensions were also given to others, and it is stated that at that time their possessions were valued at the sum of 109l. 6s. 24d., according to Speed, or 86l. 12s. 24d., according to Dugdale. The manor of Barking, which seems to have formed part of the original endowment of the abbey, was sold with the rest of the lands in 1629, when Charles I. sold it to Sir Thomas Fanshawe for 2000l., reserving to the crown a fee-farm rent of 160l., which is now payable to the Earl of Sandwich. The abbey church and conventual buildings occupied an extensive site, which is now the site of the town.

The site of the former is just without the north wall of the present churchyard. Barking has considerably declined in consequence of the suppression of the abbey. It is said to have been the scene of the exile and murder of St. Dunstan about two miles north of the Thames. The river, which is wide, and receives the tide from the Thames as far as the town, is commonly called Barking Creek. It narrows very much immediately above the town, but has been made navigable for small craft as far as Iford. The inhabitants consist chiefly of fishermen and of persons employed in conveying coal and timber from the Thames to the different towns in the district. A considerable number also find employment in conveying the coals to various points for the various industries of the town. The town has a free-school, a market-house, and a spacious and convenient workhouse, erected in 1787, under the authority of an act of parliament. The church, dedicated to St. Margaret, belongs to St. John's College, Oxford, and is annexed to the abbey, and contains some curious monuments: the living is a vicarage in the diocese of London; the college of All Souls, Oxford, is patron. Two chapels, the one at Iford and the other at Epping Forest, are annexed to this living.

The parish is divided into four wards, each with its separate offices. Barking-town ward has two churchwardens (one appointed by the vicar and the other by the parish) and an overseer. The lord of the manor holds a court every three weeks, in which these and various other petty causes are tried. The population of the parish was 8636 in 1831; and that of the town 3404, of whom 1765 were females.

(Lysons' Environs of London, vol. iv.; Monant's History and Antiquities of Essex; Dugdale's Monasticon, &c.)

BARKWAY, an ancient village of Hertfordshire, in the hundred of Edwinstree, 34 miles north of London, and 3 miles south of Royston. It stands on a hill, and on the principal road from London to Huntingdon, and via Cambridge, and Saffick, to which circumstance it is chiefly indebted for its prosperity, as it possesses but little trade. Norden says, that he had seen the place termed, in ancient records, Bergwant, which signifies in Saxony Grass Mill. At the fall of the great lords in the 15th century, this place were divided among four great lords into as many manors, and afterwards into eight manors. Barkway is called a 'town' by old writers; and it was privileged by Edward I. to have a market on Thursday, and an annual Fairway, an ancient village of Hertfordshire, in the hundred of Edwinstree, 34 miles north of London, and 3 miles south of Royston. It stands on a hill, and on the principal road from London to Huntingdon, and via Cambridge, and Saffick, to which circumstance it is chiefly indebted for its prosperity, as it possesses but little trade. Norden says, that he had seen the place termed, in ancient records, Bergwant, which signifies in Saxony Grass Mill. At the fall of the great lords in the 15th century, this place were divided among four great lords into as many manors, and afterwards into eight manors. Barkway is called a 'town' by old writers; and it was privileged by Edward I. to have a market on Thursday, and an annual
third on the multiplication and division of accedences, the fourth on operations with surfaces and lines, the fifth on the history of the numerical data. Delambre has reviewed the third book, *Hist. d'Ant. Amt. v.* p. 320. It altogether gives us but a poor idea of the science of the age, and justifies Delambre’s remark that Barlam has not been the subject of any previous inquiry.

There have been two editions of this work: the first (Greek and Latin) by Dasiopoulos [see Artolcy], Strasburg, 1573. The history of the second is rather curious, if we consider how conversant the learned of that age (owing to the unison of the episcopacies and the labours of each other) Henry Savile, the author of the *Practicores in Euclidum*, and founder of the Savilian Professors at Oxford, found a Greek MS. of Barlam in his travels, and not being able to read it, or, at least, to understand much of it, he sent it to his friend, John Churche. Fellow of Eton, who, equally ignorant that the work was already printed, published it with a Latin translation and scholia at Paris, in 1600. He added a dedication to Queen Elizabeth, and a preface, in both of which he spoke so freely of the exploits and foreign policy of England (specifying, by a sufficiently obvious implication, that the pope, the king of France, and the devil were in league), that the French government commanded an erruption of the *Practicores* under the severe punishment on the editor, who was allowed to emigrate for England, and who secretly brought with him some of the copies. We learn these facts from an *Admonitio et Lexivium in omnes copies aforatas, to which the worthy editor, though he had sent the brackets to the printer, was very much wonders what offence he could have given, that *spectret censurae columbæs.*

Barlam is said to have written a work on right-angled triangles; and there is in the British library the title of a work of his as follows: *Artihemus Demonstratio corum esse Euclides libro ii.* in *luam demonstravit* (no date or place).

Boccaccio, above mentioned, wrote a work on the heavens given in the *Glossa ordinaria* (Veniva de Hist. Lat. or work Boccaccio) that most of what relates to the Greeks and to the authority of Barlam. Boccaccio speaks as follows:—He was a man feeble in body, but very great in science, and so sound in Greek learning, that he had the confidence (priviligio) of emperors and princes of that country, testifying that neither in these times, nor in many preceding ages, had there been a man so great and excellent knowledge. Should I not therefore trust him a more reliable hands of some of the works of this period?

Riccioli, in his *Chronol. Reform.* speaks of two named Barlaam, the first a Calabrian, friend of Petrarch, and mathematician; the second, bishop of Geras, who wrote a favour of the union with the Greek Church. The first he mentions A.D. 1185; the second, in 1191. Two names, one of the councils in 1111, and the council of the emperor, who convoked it accordingly, June 11, 1341. The monks of Athos got the better of the argument; and Barlam, by advice of Cantacuzenus, gave in, and sought a reconciliation, which was effected. Several accounts (from Cave, *Hist. Lit.* state that he withdrew from Constantinople, and was excommunicated by the council. He returned to Italy, and to the doctrines of the Western Church, and was by Clement VI. promoted to the bishopric of Geras. It is said that he was Petrarch’s instructor in Greek. He died probably about 1348."


The mathematical work of Barlaam consists entirely of arithmetic and geometrical reasoning, then called Logistica. It is not much better than the works of others of the same period. The first book is on the addition and subtraction of fractions; the second on their multiplication and division; the
Damiani, with all the particulars of the correspondence before the flight, the names of the champions, &c., in a book printed in 1503, was concealed in a dyer's shop by Vida, who was also a contemporary, was overlooked, or at least disfigured by subsequent historians, until of late years, when the original narrative was found and reproduced by M. H. Vida, XIII. Pugilium Curtamen, Milan, 1818. It has also furnished the subject of an historical novel called Ettore Feramouso, o la Dufila di Barletta, Milan, 1833, and a theatrical ballet in the cathedral of Barletta, called, with a high steeple, the interior presents nothing striking, except some ancient granite pillars brought from Canosa. Barletta is surrounded by an old wall, and has a citadel which commands the harbour. The population is reckoned at above 10,000 inhabitants, and thrives. It is one of the most pleasant provincial towns of the kingdom. It is frequented by Dalmatian traders, who cross the Adriatic in their small vessels.

Barley is a grain too generally known to require a minute description. It is readily distinguished from other grain by its pointed extremities, and by the rough appearance of its outer skin, which is the corolla of the flower closely enveloping the seed, and, in most varieties, adhering strongly to it.

Botanists place barley in the family of the Gramineae and Linneas has classed it in the second order of his third class (Trit-Baseda diggyina), having three stamens and two styles in the flower. For its botanical characters, see Hor. Barb, according to the most antient authors, formed a principal part of the food of man in the early ages, and continues to do so at this day, in many countries where the prospect of agriculuture and the increase of wealth have not yet enabled the inhabitants to eat bread as a staff of life. The barley, on account of its taste, makes the best and most palatable and nutritious wheaten bread, and where the soil is not well adapted to rye, or the climate to maize.

All the cultivated grains, barley is perhaps that which comes to perfection in the greatest variety of climates, and is consequently found over the greatest extent of the habitable world. It bears the heat and drought of tropical regions, and ripens in the short summers of those which verge on the frigid zone. In genial climates, such as Egypt, Barbary, and the south of Spain, two crops of barley may be reaped in the same year, one in spring from seed sown in the preceding autumn, and one in autumn from a spring sowing. Thus explains a writer of the time of the Emperor Leo the Great, that the seed of the hail is mentioned which desolated Egypt, in consequence of the refusal of Pharaoh to let the children of Israel depart: 'The flour and the barley were smitten, for the flour was in the field, and the barley was in the barn. Commentators agree that this event happened in the month of March; the first crop of barley was therefore nearly ripe, and the flour ready to pull; but the wheat and the rye sown in spring were not yet sufficiently advanced in growth to be injured by the hail.'

Agricultural writers in general have distinguished the different species of barley, either from the time of sowing them, into winter barley and spring barley, or, from the number of rows of grains in the ear, into six-rowed, four-rowed, and two-rowed, or flat barley. Another distinction may be made between those which have the corolla strongly adhering to the seed, and those in which it separates from it, leaving the seed naked, from which circumstance these are called naked barley. Without entering into any discussion whether these differences are sufficient to constitute distinct species, or are to be considered as varieties produced by climate, soil, or cultivation, we shall only observe that those kinds which are barbed, and will bear the weight of our climate, may also with success be sown in spring, as is the case with the Scotch here or big. There seem, in fact, to be only two very distinct species of barley generally cultivated: one which produces three perfect flowers, and as many seeds, and is sown at the time of the rachis, or middle of the ear, alternately on each side (fig. 1), and another, in which the middle floret is perfect, and the two others barren, forming a flat ear, with only one row of grains on each side, as our common spring barley (fig. 2). The first species has sometimes the middle floret small or abortive, and consequently only four rows of grains, giving
the ear a square appearance, but that this is only a seasonal deviation, is proved by its returning to the perfect or with six rows, in rich soils, and under proper culture.

In some varieties of both kinds the seeds stand more apart from each other, and at a greater angle with the rachis; the ear is also shorter, giving it the appearance of a bush or fan, whereas it has been called North German Barley it is also known by the name of Spat Barley. In other varieties, the corolla separates from the seed when ripe, and the ears fall off; these are the naked barleys. Each of these has been reared at different times, and is worthy of the attention of careful cultivation of the practical and experimental agriculturist.

Winter barley is mostly sown in those countries where the winters are mild, and the springs dry, as in the case of France, Italy, and Spain, or in those where the snow is deep all the winter, and where the sun is unceasing immediately after the melting of the snow in spring. In the case of Russia, Poland, and some parts of North America, in most climates, where the winter is too wet and the early part of spring is usually wet, as is the case in England, Scotland, and Ireland, the young barley is too apt to suffer from these circumstances, and the spring-sown barley gives the most certain prospect of a good crop: but the grain of the barley is seldom so heavy as that which has stood the winter, and being harvested later, it interferes with the wheat harvest, which is an inconvenience.

The winter-sown barley is generally of the semi-soft, of which the scree bunt is the inferior variety, being hard, and of rapid growth, it is well suited to exposed situations and inferior soils. The Skewen Barley is a variety of which, with naked seeds, has been highly extolled by foreign agricultural writers, especially by Thomas, under the name of Horstman. It seems to be a superior sort of rich soil, not only for its heavy and nutritious grain, but for its succulent stems and leaves, which make it by far the best sort to sow for the purpose of green food for cattle and sheep, and, if fed off early, the ears will, in a rich soil, shoot out an abundance of fresh stems and produce a good crop of grain at harvest.

The barley most commonly cultivated in England is that which has only two rows. It is almost universally sown in spring. The varieties produced by difference of soil and cultivation, as well as by seed, are numerous. Those of other countries, are innumerable; they have been derived by most agricultural writers into the early or rath crop sorts, as they were called, and the late rye, from the period of their being fit to reap. But this is a distinction which is not very accurate. It is well known that the growth of each brings any grain to perfection in less time than the others and on colder soils, and that the produce acquires from the soil in which it grew a disposition to ripen earlier or later. This property it retains for a few successive years by the modification of its vegetating power, to which is analogous to the alterations produced on the same ground by habit. Thus seed sown repeatedly in a light dry soil becomes rath rye, and that sown on the heavy soil kind late rye, although originally the same. The rath rye grain is always less heavy than the late rye; and from these circumstances the experienced cultivator of barley chooses his seed from such land, as may modify the kind produced by his own, giving him a crop with as much grain as his soil can produce, and within a constant period.

The common Norfolk spring barley, so called because it is the principal sort cultivated in that county, has a moderate-sized ear, containing from ten to fifteen seeds on each side on an average (fig. 2). The straw is not very stout, and makes good fodder for cattle in winter. Some prefer the long-cored, which contains from twelve to twenty seeds in a row, but it has a weaker straw, and is subject to be broken down by rains from the weight of the ear. Amongst varieties have been in great repute at different times, the first introduced, and then seem to have degenerated and lost their superiority. Of this kind is the Middletown barley, which was much sought after some years ago; and lately the Westlothian barley (fig. 3), so called from the country from which it first brought into notice. It is said that having observed an ear of barley in his field greater superior to the rest, he carefully saved the seed, and cultivated it in his garden till he had a sufficient quantity to sow it in a field. It has since been
extremely multiplied and diffused through the country. Some eminent maltsters and brewers have declared, that it contains more saccharine matter than any other sort; and the trials hitherto made have convinced many agriculturists that it is not only heavier in the grain, but also more productive. In 1832 Mr. Coke of Norfolk, who is always foremost in all agricultural experiments and improvements, sowed a considerable portion of land with this barley, and the result is said to have been perfectly satisfactory. In the year 1833 the writer of this article sowed two acres of Chevalier barley in the same field with some of the best of the common barley. The soil was poor light sand, but in good order and very clean. The produce of the whole was nearly the same, four quarters per acre, but the Chevalier barley weighed 57 lbs. per bushel, while the common weighed only 52. This gives the farmer an advantage of nearly ten per cent. The sample was very fine, and the whole that he could spare was eagerly purchased by his neighbours for seed at his own price. It is long in the ear and very plump, and the plants taller so much, that half a bushel may be saved per acre in the seed. This is probably owing to its grains being all perfect, and germinating rapidly. The straw, like that of the other long-seared barleys, appears weak in proportion to the ear; it is said also to be harder, and not so palatable to cattle. These are circumstances which experience alone can ascertain. That hitherto it has a decided superiority over the common sorts, no one who has tried it fairly in well-prepared land seems to deny: but unless great care be taken in cultivating picked parcels for seed, selecting the finest ears and plumpest grain, it will probably share the fate of its predecessors—degenerate, and lose its reputation. Might not the cultivation of the various kinds of grain purposely for seed be more generally practised, and form a distinct branch of agriculture? And would not this be well adapted to small occupiers and cottagers, who may have had allotments of land given or let to them, to enable them to live by their own labour and industry, without parochial aid? Thus the good qualities of any grain might be perpetuated, new varieties might be produced, and the defects corrected by cultivation, as in the case with horticultural plants.

The Sprat or Battlesdore Barley (Fig. 4), also called Putney Barley, from having been once extensively cultivated near that place, is in much esteem in Germany. It is the Hordeum Zeorion; also called German rice, or rice barley, not from any resemblance it bears to rice, but because, when deprived of its skin and made into pot barley, it swells by boiling, and makes a good substitute for rice in broths and puddings. It is not much cultivated in England at present, but it is hardy and productive, and grows well in stronger soils, especially the marly, and is well worth the attention of experimental agriculturists. It certainly was once in good repute in this country, and may suit particular soils and situations.

All kinds of barley require nearly the same soil, and whether they are sown before winter or in spring, the ground must be well prepared, and the soil pulverised by repeated ploughings and harrowings, or by the operation of those instruments which have been invented for this especial purpose; in order that the fibres of the roots, which are very minute and delicate, may penetrate the soil easily in search of nourishment.

The cultivation of all the varieties is nearly the same, and is best understood in the counties of Essex, Norfolk, and Suffolk, in which a great quantity of excellent barley is produced and malted for the London market. In the light soils, barley is invariably sown after turnips, which have been fed off the land by sheep, or bred to draw the castle in winter in the yards or stalls, who, by means of an abundance of litter, make a vast supply of manure ready for the next turnip crop. When the land has been properly prepared for turnips [see Tunnage], and well manured, and the turnips have been carefully hoed, so that no weeds of any kind remain, it is then in the finest state for barley as soon as the turnips are off. Turnips require a well pulverised soil, and so does barley. If the soil is very dry and light, the sheep folded upon it consolidate the surface by their treading, and enrich it by their urine and dung. As soon as a part of the field is cleared and the hurdles removed, the land is ploughed with a shallow furrow, and thus the sheep and the ploughs are often seen in the same field succeeding each other, that no time may be lost in turning in and covering the dung, which is very volatile, and would soon lose much of its qualities by the action of the sun and winds. This is sufficient preparation for the seed, which may now be sown or drilled without delay.

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A plant is said to suffer when it produces several stems from the crown of the root (Fig. 4) or on the surface of the root.
In heavier soils, which have become tenacious by the winter’s rains, or on which the sheep have been folded in wet weather before it was not in a sufficiently dry state to receive the seed with advantage. In that case it must be worked and stirred till a propertilth is produced: this is a great loss and hinderance, by increasing the labour at the busy time of the season. It is much more important that the seed can scarcely be too dry on the surface at the time of sowing, at least in this climate, and, provided a few showers supply the moisture necessary to make it vegetate and spring up, there is no great danger to be apprehended from too dry weather. Winter barley need only be slightly covered, and will tiller astonishingly in good light soils. The examination of two roots, one of which (fig. 5) proceeded from a grain dropped on the surface of the soil, and the other (fig. 6) buried one or two inches under the surface, clearly shows the difference. In the first, the crown (a), from which the stems tiller, has the seed still adhering to it; in the other they are separated by a strong tough ligament (c). This forms two distinct centres, from which the roots spread; and, in very light soil and dry season, the roots, springing immediately from the seed, are less exposed to be dried up. But in stiff soils the seed, buried deep, may have much difficulty in germinating, the air not having sufficient access, and the first shoot, which forms the ligament (c), not being able to force the compact soil above it. As a general rule, a depth of from one to a half to three inches, according to the nature of the soil, is most likely to enable the seed to sprout well, and give a sufficient hold of the land by the roots to avoid the danger of lodging. It is of consequence that all the seeds be disposed at a uniform depth, to ensure their shoots rising at the same time: for where some rise earlier and some later, it is impossible to reap the whole in good order; some of the ears will be too green, while others are shedding the seed, from being too ripe. This is one reason why drilled crops are, in general, so much more regular in their growth than the broadcast. After sowing barley it is useful to pass a light roller over the land, across the stiches if there are any, to press the earth on the seed, and prevent too great evaporation of the moisture. When the plants begin to tiller, another rolling, and in some cases a slight harrowing, to loosen the surface and then cut the plants where they grow too close, is very useful. This is also the best time to sow clover and grass seeds, if not done with the first rolling. Barley is not usually hoed, because the land should be perfectly clear of weeds and their seeds, before it is sown; but if hoing is thought necessary to loosen the

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*Fig. 5.*  
A root of self-sown barley in a rich light soil.  
*Fig. 6.* The same in a poor stiff soil.
is required to the crop till harvest, unless some docks or thistles should make their appearance, which must then be carefully pulled up.

The practice of sowing clover, rye grass, or other seeds, with the barley, is almost universal, and is considered as one of the great modern improvements in agriculture. There is no doubt a great advantage in having a profitable and improving crop to succeed the barley, without further tillage; and clover prepares the land admirably for wheat. Still there are some doubts, whether this be profitable in all cases. There are seasons when the clover materially injures the barley by its luxuriance; and, in wet seasons at harvest, it is very difficult to dry the straw sufficiently, mixed as it is with the succulent stems of the clover, or to prevent its heating in the stack. The clover, as far as the barley is concerned, may be looked upon as a weed, which, like all other weeds, must take a part of the nourishment from the crop, and check its tilling. If the clover is sown late among the barley, the danger is less. It will not be able to grow so high as to do much injury, but the fear of losing the plant of clover makes most farmers prefer sowing it soon after the barley.

In Flanders, clover is seldom, or never, sown with barley, but chiefly with rye; but they sow a species of white carrot, instead, in the sandy soils. These push out very little of the green top, but shoot their fibres downwards, which form the rudiments of the carrot. After harvest, the ground is well-harrowed, and watered with liquid manure. The carrots, which could scarcely be observed above ground, soon spring up, and a good crop is secured before winter, extremely useful for feeding cattle and swine, and greatly increasing the urine of cows and bullocks, the favourite manure for light soils in that country.

As soon as the ears of the barley begin to droop and lose their purple hue, acquiring a light straw colour, before the grain is quite hard, it should be reaped. This is usually done by mowing it with a scythe, having a hoop, or an appendage called a cradle, fixed to it, so as to lay the

swathe regularly: but where there is a sufficient supply of labourers, at reasonable wages, it is far more profitable to have it reaped with the sickle, or, what is better, with the Haymaul scythe, a short, broad scythe used with one hand, while a light hook is held in the other to lay the straw even, so as to be readily tied up into sheaves. A little practice enables a man to reap twice as much corn in the same time, with this instrument as with the reaping-hook. Binding into sheaves is a great advantage; much less corn is shed, which, in the common method of raking into heaps, often amounts to more than would fully saw the same extent of land. The sheaves set up on end are in less danger from the weather, and when the stack is built, all the ears may be laid inward and much grain saved, which, if on the outside, would soon be the prey of birds: smaller stacks may be made, and the danger of heating entirely avoided. The stacks should be built on frames, supported by stone or cast-iron pillars, with flat caps on them to keep out vermin; and, in large stacks, it is useful to have a kind of open cage in the middle, to allow the admission of air to the centre. This dries the grain better than a kiln, and when the stack is properly thatched with straw, the crop may be considered as safe till it is carried into the barn to be thrashed. [See HARVEST, &c.

Barley requires care in thrashing, to break off all the awns close to the grain. A thrashing machine does not accomplish this perfectly by only once passing the straw through the rollers; it is consequently usually put through a second time, especially if it has not been cut into sheaves. It is often necessary, after the barley is thrashed, to effect this by another operation, which is called hummeling, for which purpose several different kinds of instruments are used. A simple one consists of a cylinder composed of small bars of iron, and placed on an axis, which is rolled backwards and forwards over the grain; or, where a thrashing machine is used, a plate of iron, perforated like a nutmeg-grater, is fixed to the inside of the drum in which the beaters revolve, and the awns are effectually broken off by this rough surface.

The diseases to which barley is subject while growing are those which attack all other grain—the smut, the burnt ear, blight, and mildew; but it is less liable to these than wheat. The greatest enemy is a wet harvest. It is so apt to germinate with the least continuance of moisture, that even before it is reaped, it often exhibits an ear in full vegetation, every grain having sprouted (see fig.). It is then of

 Premature germination of an ear of Barley.
BARLY-BREAK, a popular pastime of the reign of James I., allusions to which repeatedly occur in our old writers. It was played by six persons, three of each sex, who were coupled by lot. A piece of ground was then chosen, and divided into three compartments, of which the middle one was called hell. It was the object of the couple thus condemned to this division, to catch the others who advanced on the two extremities, in which case a change of station took place, and hell was filled by the couple who were excluded, by pre-occupation, from the other places. In the ‘catching,’ however, there was some difficulty, as, by the regulations of the game, the middle couple were not to cross the bounds of their hell, however hard pressed they were, when all had been taken in turn, the last couple was said to be hell, and the game ended.

Several poetical descriptions of this amusement are extant: one in Barley-break, or a Warning for Wastrels, written by W. N. Gent, 4to. Lond. 1667; another in Philip Sidney’s Arcadia; and a third in Sir John Suckling’s Poems, which has been quoted by Brand in his Popular Antiquities, vol. ii. p. 278, and by Gifford in his Notes on Massinger.

Dr. Jameson, in his Etymological Dictionary of the Scottish Language, gives an account of the game as still used in the north of Scotland. He calls it ‘a game generally played in Scotland, and in some parts of the north of England, oats are in greater request, being the chief food of the labouring classes, and preferred by them to barley, except it be in the form of pot-barley in their broths.

Barley in its green state, especially the Siberian winter barley, makes a handsome food for milch cows, and is well known to the cow-keepers about London; it comes in early, and greatly increases the milk. It is also very good for horses, provided it be given sparingly at first, as it purges them; but after a little time, when the stomach becomes accustomed to it, it increases their flesh and condition wonderfully, and is much more wholesome than the usual spring physic, as it answers the purpose of gently cleansing the intestines, without any risk of irritation. For sheep it is a first-rate food, and comes in earlier than hay. When fed off quite close in April, it will spring up again, and, on good land, produce a fair crop of grain in August, but in general it is ploughed up as soon as it is fed off, and succeeded by spring tares or turnips.

Barley has always been considered as possessing medicinal virtues; deceptions of it have long been used for the sick, especially in all pulmonary complaints; and, with the addition of some vegetable acid, it is extremely grateful in fevers, allaying thirst, and giving such a degree of nourishment and indigestible matter, without exciting the circulation.

M. Theodore de Saussure has carefully analysed the products of barley burnished and its straw, and we shall close this article with the result of his experiments. (From his Essai sur la Végétation, Paris, 1804.)

The grain reduced to flour, or groats, gave, out of 100 parts, 18 of barley, which contained:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potass</td>
<td>18</td>
</tr>
<tr>
<td>Phosphate of potass</td>
<td>9.2</td>
</tr>
<tr>
<td>Sulphate of potass</td>
<td>1.5</td>
</tr>
<tr>
<td>Phosphate of potass</td>
<td>1.5</td>
</tr>
<tr>
<td>Earthy phosphates</td>
<td>0.5</td>
</tr>
<tr>
<td>Earthy carbonates</td>
<td>0.5</td>
</tr>
<tr>
<td>Silica</td>
<td>0.5</td>
</tr>
<tr>
<td>Metallic oxides</td>
<td>0.25</td>
</tr>
<tr>
<td>Loss</td>
<td>1.00</td>
</tr>
</tbody>
</table>

1000 parts of the straw produced 42 of barley, containing:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potass</td>
<td>16</td>
</tr>
<tr>
<td>Phosphate of potass</td>
<td>3.5</td>
</tr>
<tr>
<td>Sulphate of potass</td>
<td>5.0</td>
</tr>
<tr>
<td>Phosphate of potass</td>
<td>3.5</td>
</tr>
<tr>
<td>Earthy phosphates</td>
<td>7.75</td>
</tr>
<tr>
<td>Earthy carbonates</td>
<td>12.5</td>
</tr>
<tr>
<td>Silica</td>
<td>5.75</td>
</tr>
<tr>
<td>Metallic oxides</td>
<td>0.5</td>
</tr>
<tr>
<td>Loss</td>
<td>2.25</td>
</tr>
</tbody>
</table>

1000 parts of the straw produced 42 of barley, containing:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potass</td>
<td>16</td>
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<tr>
<td>Phosphate of potass</td>
<td>3.5</td>
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<tr>
<td>Sulphate of potass</td>
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<tr>
<td>Phosphate of potass</td>
<td>3.5</td>
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<tr>
<td>Earthy phosphates</td>
<td>1.5</td>
</tr>
<tr>
<td>Earthy carbonates</td>
<td>12.5</td>
</tr>
<tr>
<td>Silica</td>
<td>12.5</td>
</tr>
<tr>
<td>Metallic oxides</td>
<td>0.5</td>
</tr>
<tr>
<td>Loss</td>
<td>2.25</td>
</tr>
</tbody>
</table>

These products no doubt vary in different soils; but the proportion of silica in the straw and in the skin of barley is remarkable. This barley grew in a chalky soil.
each other as possible, making the inside of the case rough, like a nutmeg-grater. A square opening in this case, with a sliding door over it, serves to let out the barley after it has been sufficiently ground. In order to loosen the skin without removing the surface of the grain too soft, the barley, which is chosen dry and hard, is sprinkled with water on the floor, and turned over two or three times in the course of eight or ten hours: it is then fit to be put into the mill. The upper stone is made to revolve from 300 to 300 times in a minute. The barley, gradually supplied from the hopper, is carried round in the grooves of the upper stone and rubbed on the under without being broken. The centrifugal force and the strong current of air produced by the grooves and the rapid motion, drive the grain, partially ground, against the rough case, and complete the removal of every part of the skin. It is then let out through the square opening, and falls on a sieve, which separates the naked grain from the bran. This is pot-barley. To make pearl-barley, the operation is continued till the required degree of fineness is produced. As the greater part of the finer particles of the barley ground off escape through the holes in the case, it is surrounded by another to collect this meal, or a cloth is fixed all round, which lets it fall through, but nothing is lost. This meal is excellent food for cattle, pigs, or poultry. The great objection to mills of this construction is, that they require great nicety in the adjustment of the stones, and are very apt to waste the barley by grinding it unequally, and that, at all events, the larger grains are more ground than the smaller, but for pearl-barley, which ought to be of a uniform size, this is rather an advantage. But, on the other hand, the process goes on without interruption, and if two or more pairs of stones are placed under each other, the barley may pass from the bottom into the hopper of a second, and from this into a third, so as to come out of the last of any required degree of fineness. It may be observed, that the principal use of the upper stone and its grooves is to carry the barley round and throw it against the case, and therefore any hard wood, with similar grooves, will answer the purpose as well as stone; and this is said to be the construction of several of these mills. (See Nouv. Cours complète d'Agriculture pratique, Paris, 1830, article 'Orge perle.')

The other kind of mill, which we shall now endeavour to describe, is in general used in Scotland, where most of the pot and pearl-barley used in this country are prepared. It was originally introduced from Holland, whence formerly all Europe was once supplied with pearl-barley, commonly called Dutch pearl-barley.

This mill consists of a common grindstone such as cutlers use, about three feet in diameter, revolving vertically on a horizontal axis. A case, similar to the one already described, revolves on the same axis, and in the same direction, with a slower motion. Sometimes the flat sides of this case, as well as the rim, or circumference, are composed of perforated plates of iron, but this is not absolutely necessary. The barley, prepared as before, is put in by a square opening in the circumference, the slide shut, and the machinery is set in motion, until the barley, tossed between the stone and the case by the double motion, has been entirely deprived of its skin, and is become pot-barley; or till it is ground into the small round shape of pearl-barley. The mill is then stopped, the slide pulled out, and the case being turned so as to have the opening undermost, the prepared barley falls out into the bag, or bin, placed to receive it. It scarcely wants any sifting, for such is the violence with which the grain has been tossed about, that all that is ground off is driven through the holes in the case, and is collected in a chamber which surrounds the apparatus, as in the other mill. The mechanism by which the motions of the stones and case are produced is extremely simple, and will be easily understood by reference to a figure, which, although taken from a portable hand-mill for making pearl-barley, is on the same principle as the larger. This portable mill is made by Wilkinson, in Oxford-street, and may also be used for shelling rice.

A, section of the stone turned by the axis D. B, section of the case which turns on the axis D, by means of brass bushes in its centre.

C C, a wheel having sixty teeth, or cogs, fixed to the side of the case. C E, a smaller wheel, or pinion, with fifteen teeth, moving the wheel C C, and fixed on the axis F F, by which the whole is moved.

G G, a wheel with sixty teeth, on the axis F F, moving the pinion G H, which has twelve teeth, with the axis D D, which carries the stone.

I I, Fly-wheel, which equalizes the motion of the whole. Thus by turning F F once round, the wheel C C and the case perform one quarter of a revolution, and G H with the stone, five revolutions: so that the stone makes twenty revolutions for one of the case; and if the axis F turns once in a second, the case turns fifteen times in a minute, and the stone 300 times. This is the usual velocity in large mills. A hand-mill may be moved with one-half or two-thirds of this velocity, the stone being also smaller. When the power is sufficient to turn a stone three feet in diameter 300 times in a minute, three bushels of barley may be converted into pot-barley in an hour, and into pearl-barley in two hours.

The advantages of the mill figured in the next page are considerable. It requires no very nice adjustment, and is not easily put out of order. The stone may continue in use, although considerably worn down, even to half its original diameter. There is no danger of crushing any of the grains, nor much waste; and whatever be the size of the grains it grinds them equally. If the pearl-barley is required very equal in size, it may easily be sorted by wire nets, as the different sizes of shot are. The only defect of this construction is the loss of time and of power which it occasions, by the case being stopped to take out the prepared grain and replace it by fresh barley. Inaccuracy will probably find means of removing this defect; but we are not aware of any late improvements in the construction of these mills.

Pot and pearl-barley are very wholesome and nutritious, and have a more agreeable taste than barley-meal; and it is to be regretted that they are not more used as food by the
is nearly odourless when dry, but is very sensibly aromatic while under the process of decocation. The bark is taken from the *cinchona obtusa*, which is found growing on the Andes. It is imported in various-sized pieces packed in chests, containing each from 100 to 150 lbs. Its colour is that of a reddish brown; its taste is much stronger than that of the pale variety, but greatly more astringent.

Yellow Peruvian bark was first brought into use in England about the year 1790: it is obtained from the *cinchona cordifolia*, which grows at Quito and Santa Fé. This variety is much smaller, in some quilled and others flat, of from eight to ten inches in length, packed in chests containing from 90 to 100 lbs. each. The colour approaches that of an orange; it gives out, in decoction, an odour very similar to that of pale bark; its taste is more bitter, but it is also less astringent than that of the preceding, and the genitals of the colour. It loses its orange tint, and takes that of pale yellow, it is not so valuable, and it is still worse when of a dark colour, between red and yellow.

It is said that the native Indians were unacquainted with the medicinal virtues of this bark, and that its efficacy in cases of fever was accidentally discovered by the Jesuits, whence the name, by which it is very generally known, of Jesuita bark. It was first brought to Europe in 1632, and was used at first to give a taste to the sugar and confectionery. The use of the bark became at all extensive in this quarter of the world. Humboldt states that from 12,000 to 14,000 quintals, or cwt., are annually exported from Peru. The quantities imported into this kingdom in 1822 and 1823 were 236,795 and 231,171 lbs. respectively, which makes the whole returned to the rest of Europe, the quantity retained for consumption in the two years having been only 49,525 lbs. it pays a duty, on importation, of 1d. per lb.

(Thomson's System of Chemistry; Library of Entertaining Knowledge, Vegetable Substances, vol. i. and ii.; Government Statistical Tables.)

BARK, PERUVIAN, MEDICAL USES OF. [See Cinchona.] BARKAL, JEBEL BARKAL, a remarkable sandstone-nub in Nubia, which stands isolated about a mile from the right bank of the Nile, near the village of Meroe, and in the district of the Sheikia Arabs, which now forms part of the government of Dongola under the Pacha of Egypt. Barkal is in 21° 31' N. lat., and 31° 48' E. long. The rocks rise abruptly on all sides, and quite perpendicularly on the side towards the river, to the height of nearly 400 feet, forming a wide plateau at the summit. Its circumference at the base is about a mile and a half. The remains of several great temples at the foot of it, that it was a spot devoted in very remote times to religious rites. The temples, which are five or six in number, lie between the mountain and the river. The most remarkable are the one on the west, and another on the east of the Typhonion, the best preserved of all, was dedicated to Typhon, or the evil genius, as appears from several figures of Typhon still remaining. The temple is 105 feet in length; its entrance faces the B.S.E. The three temples is a regular construction; and the further or inner part is excavaed in the rock itself. In the first hall, or vestibule, are eight pillars with figures of Typhon, four on each side, forming the central avenue, or aisles, leading to a second chamber, which was covered by a stone roof supported by eight pillars with Isia-headed capitals. The pillars are 34 feet in diameter and 18 feet high. The native assured Rupell that the roof had fallen in only twenty-five years after its construction. The third chamber, or cells, as well as the sanctuary beyond it, and also two lateral chambers, are excavated in the rock. Two more Typhon columns support the roof of the cells. The walls are adorned with hieroglyphics and figures of gods and kings in high relief. The temple is, in a word, remarkable, and fragments of it were given to Mr. Waddington, however, he is ignorant of its ground plan with some difficulty, owing to the remote condition of the building.

Near the Typhonion and the Great Temple are remains of other Temples, and of a number of tombs, made of brick, fragments of the lower wall of which are seen about two feet above the ground. Before the northern entrance of this building, two fine house of red granite were found and re-erected at full length and covering towards each other. They are about seven feet in length. One of the two houses has been broken into several pieces when first seen in 1869 (see A Narrative of the Expedition to Dongola and Sinnam, J. Murray, London, 1872.)

These two houses were brought from Barkal by Lord Probyn, in 1832, and they now lie at the entrance of the new Egyptian Room in the British Museum. One is a faintly-coloured granite; and the execution peculiar of high degree of merit, though one of the animals to appear in the temple, one lying on his right side and the other on the left. There are hieroglyphics and cartouches, supposed to contain proper names, on both of the figures. At a quarter of an hour's distance from the Great Temple, and both to the N.W. and S.W. of it, are two very small pyramids, of various sizes, none of them in good preservation. The largest of these which are cut into about 40 feet high. Several of them have small entrance temples, but not in very perfect state; one, however, has an outer door and an inner door walled up, leaving apparently nothing more. The interior walls of these temples are ornamented with hieroglyphics and representations of apostles, &c. The roofs of the temple are flat, but one of them is covered with the usual canopy. They are probably sepulchral monuments, and
may have formed part of the Necropolis of Napata, the ancient Ethiopian city which some suppose to have stood near this place. With regard to the great temples, Rüppel ascribes most of them to the age of Egyptian greatness, after that nation had conquered Egypt, or about the eighth century before Christ. These ruins remained unknown to Europeans till 1828, when the expedition of Ismail Pasha proceeded into Dongola and Sinnor. The first European traveller who visited them is supposed to have been Père Chavigny; followed by Caillaud in 1821; and Caillaud was followed by Dr. Rüppel in 1824-5, who has given a very minute description of them, from which the above details are mainly taken.

(Waddington's and Hanbury's Visit to Ethiopia; Caillaud, Voyage à Merou; Rüppel, Reisen in Nubien, Korsoa, and Polarischen Arabien.)

BARKING, a market-town in the county of Essex, about eight miles east of London. It lies in the hundred of Benecourt, in a parish also called Barking, the circumference of which is about thirty miles: this parish contains 10,170 acres, of which 7,850 is cultivated land, and about 1,550 belonging to Hainault Forest, which includes within its limits the well-known Fairlop Oak; under the shade of which a fair is held on the first Friday in July. The name of the place is belonging to Bersing, Bersing, Bersing, in old records; and some antiquaries derive it from Bersicking—the fortification in the town. Some consider the entertainments are still visible in the fields about it, and others that there was a town before the con- sent town. The origin of the town is not distinctly ascertained; but the consequence which it ultimately acquired was certainly owing to its celebrated Abbey, the founding and subsequent prosperity of which has had a vast influence on the native population. This abbey, originally dedicated to the Virgin Mary, is said to have been the richest nunnery and the oldest foundation in England; but this is an error, as Folkestone nunnery in Kent was founded many years before; and both Shrewsbury and York, which were not founded until the thirteenth century. The original abbey, founded about the year 677, in the reigns of Sebb and Sighere, kings of the East Saxons, by St. Erkenwald, bishop of London, at the instance of Queen Ethelburga, who was appointed the first abbess. This lady and another lady contributed to the completion of the abbey before death. In 867 the abbey was burnt to the ground by the Danes, and the nuns were killed or dispersed. Being within the territories ceded by Alfred to Godwin, the Danish king, it lay desolate until the middle of the tenth century, when it was rebuilt and restored to all its former splendour by King Edgar, the great founder and restorer of religious houses. Some historians state, that at the Norman conquest the Conqueror retired to this abbey soon after he had crossed the Channel; and he is said to have presided at the convention petitioned to be excused from contributing an and to the king at the time of a threatened invasion, on account of the expenses which they had been obliged to incur in repairing the great damages occasioned by a terrible inundation which in the preceding year had broken down the banks of the Thames at Dagenham; a similar statement was often made at subsequent periods; and in 1410 it is stated that the revenues of the convent were so much impaired, in consequence of the absence of the abbot, in which the tenants of Dagenham and Barking, for the repair of the breaches of the embankment. In 1297 a breach was made by a high tide, which occasioned the loss of 1000 acres of rich land, and a sand-bank was formed at the mouth of the river, which stretched almost 1000 yards across the river, and was nearly a mile in length. The proprietors spent more than the land was worth in endeavouring to recover it, and then applied to parliament, which took up the matter as a public concern; and after the failure of another party in the attempt, a Captain Perry engaged to close the breach, made good the embankments, and remove the sandbank, for the sum of 25,000l. He completed this engagement at the end of three years, but at an expense of 15,000l, beyond his estimate, which was, however, afterwards made good to him by parliament. The whole bank is now kept in a very complete state of repair under the superintendence of commissioners. The bank is from eight to fourteen feet high, and a path extends along the top for the whole distance.

The nuns of Barking were of the Benedictine order. The abbess was appointed by the king until about the year 1280, when the interference of the Pope, the election was vested in the convent, and confirmed by authority. The abbess of Barking was one of the four who were baronesses in right of their station; for being possessed of thirteen knight's fees and a half, she held her lands of the king as a barony; and though her sex prevented her from having a seat in parliament or attending the king in the wars, yet she always furnished her quota of men and had precedence over other abbesses. In her convent she lived in great state: her household consisted of chaplains, esquires, gentlemen, gentlewomen, yeomen, grooms, a clerk, a yeoman-cook, a grooms-cook, a pudding-wife, &c. The last abbess was Dorothy Harley, who had a pension of 133l. 6s. 8d. per annum settled on her when the convent was surrendered to Henry VIII. In 1552: smaller pensions were also given to the other three abbesses; and it is said that time their possessions were valued at the sum of 1084l. 6s. 21d., according to Speed, or 862l. 12s. 21d, according to Dugdale. The manor of Barking, which formed the original endowment of the abbey, was made over to the abbess, remained with the crown from the dissolution until 1628, when Charles I. sold it to Sir Thomas Fanshawe for 2000l, reserving to the crown a fee-farm rent of 160l., which is now payable to the Earl of Sandwich. The abbey church and buildings continued to be used as a manor house; and the abbey remained with the crown from the dissolution until 1628, when Charles I. sold it to Sir Thomas Fanshawe for 2000l. reserving to the crown a fee-farm rent of 160l., which is now payable to the Earl of Sandwich. The abbey church and buildings continued to be used as a manor house; and the abbey remained with the crown until 1638. The abbey church, dedicated to St. Margaret, formerly belonged to the abbey, and contains some curious monuments: the living is a vicarage in the diocese of London; the college of All Souls, Oxford, is patron. Two chapels, the one at Iford and the other at Epping Forest, are annexed to the vicarage. The parish is divided into four wards, each with its separate officers. Barking-town ward has two churchwardens (one appointed by the vicar and the other by the parish) and an overseer. The lord of the manor holds the petty freeholders on a lease for a term of years. The lands under forty shillings are tried. The population of the parish was 8036 in 1831; and that of the town 3340, of whom 1765 were females.

(Lyon's Environs of London, vol. iv.; Morant's History and Antiquities of Essex; Dugdale's Monasticon, &c.)

BARKWAY, an ancient village of Hertfordshire, in the hundred of Edwinstree, 34 miles north of London, and 3 miles south of Royston. It stands on a hill, among the counties of Cambridge, Norfolk, and Suffolk, to which circumstance it is chiefly indebted for its prosperity, as it possesses little trade. Norden says, that he had seen the place termed, in ancient times, Bergawode, which signifies 'the hill.' At the time of the Conquest, the lands of this place were divided among four great lords into as menors, and afterwards into eight manors. Barkway is called "a town" by old writers; and it was privileged, by Edward I. to have a market on Thursday, and an annual

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third on the multiplication and division of magnitudes, the fourth on operations with surfaces and lines by means of the conchoid; the fifth on the use of the conchoid for solving the problems of the ancients. Delambre has reviewed the third book, Hist. d'Ant. Anc. v. i. p. 292. It altogether gives us but a poor idea of the science of the age, and justifies Delambre's remark, that Barlaam might have had a great deal to be thankful for.

There have been two editions of this work: the first (Greek and Latin) by Dusapodiou [see Autolycus], Berchem, 1572. The history of the second is rather curious. If we consider how conversant the learned of that age (owing to the grandeur of the subject) were with the affairs of each other, one is surprised to find how Barlaam and his friends, like Abbeys and colleges, and the masque, were mysteries: the labours of each other. Henry Savile, the author of the Procellitosa in Euclidis, and founder of the Savilian Professorships at Oxford, found a Greek MS. of Barlaam in his travels, and not being able to understand it, wrote to John Chamber, fellow of Exton, who, equally ignorant that the work was already printed, published it with a Latin translation and scholia at Paris, in 1600. He added a dedication to Queen Elizabeth, and a preface, in both of which he spoke so freely of the exploits and foreign policy of England (speaking, by a sufficiently obvious implication, that the pope, the king of France, and the devil were in league), that the French government commanded an erasure of the passages marked [verb] but [with note]. Bernard of Seminars in Calabria was born about the end of the thirteenth century. He took the vows as a member of the order of St. Basil, and the name of Barlaam, at an early age.

Boccaccio, the novelist, who died about 1375, calls him a contemporary. [He went into Mt. Athos, and thence to Salonicula, to study Greek, that he might read the works of Aristotle. In 1377 he went to Constantinople, and obtained the favour of the Emperor Andronicus, and the young Prince, and his favourite, John Cantacuzenus, who obtained for him an abbey. He had previously adopted the tenets of the Eastern Church. He entered into controversy with Nicephorus Gregoras, by whom he was beaten, and then retired in disgust to Salonicula. On the conclusion of the peace in April, 1386, he went to Constantinople to treat for the re-union of the churches, Barlaam emerged from his retirement, and violently opposed the measure. Moretti and others assert that Barlaam was sent to Benedict XII, (John's successor) to promote the above-mentioned object. This, if given out at all, was a pretext, for [Barlaam was sent to Italy in 1389, to endeavour secretly to procure assistance against the Turks and Bulgarians. In 1440 he returned to Constantinople, and resumed an old connection with those who had possessions at Mt. Athos (and particularly with one of them, George Palamas), who asserted that the light seen on Mount Tabor during the transfiguration of Christ was a part of the uncreated energy of the throne, and denied that it; and this controversy was carried to such a height that both were suspended. The second council of the emperor, who conveoked it accordingly, June 11, 1341. The monks of Athos got the better of the argument; and Barlaam, by advice of Cantacuzenus, gave in, and sought a reconciliation, which was effected.] Several accounts (from Cave, Hist. Lit. state that he withdrew from Constantinople, and was excommunicated by the council.

He returned to Italy, and to the doctrines of the Western Church, and was by Clement VI. promoted to the bishopric of Gerace. It is said that he was Petrarch's instructor in Greek. He died probably about 1345.]


The mathematical work of Barlaam consists entirely of arithmetic and geometrical theory, then called Logistica. It is in six books, and called Barlaam's Kunst der Musische Sarscphar, et Montan. It is very concise. The first book is on the addition and subtraction of fractions; the second on their multiplication and division; the
possessed partly by the Dutch and partly by the Portuguese. Barleus gives many interesting details about that country and its aborigines, as well as about the events of the war carried on between the Dutch and the Spaniards, Portugal and its colonies being at that time subject to the crown of Spain. The book is adorned with numerous maps and engravings of herbs and flowers. Among the latter poems is one called Britannia Triumphans, written on the accession of Charles I. to the throne. Barleus's Dutch poems are less known, having never been collected together, but one of them was written in an elegant, pure style, and to contain many fine conceits. His Epitaphs were published after his death, two vols. 8vo. Amsterdam, 1657. Of his controversial writings we may mention the Antiprisean, 4to. 1633; and the Lettres de Viceuqui, with the Réponse aux Lettres de l'auteur. "Long before Long was then prevailing fashion among the learned, he latinized his name, Barè, into Barleus.

Barleri, a genus of plants belonging to the natural order Anacardiaceae and characterized at first sight by the spiny processes of its bracts, by the large size of the upper and lower sepals, and by its funnel-shaped corolla, which is often so twisted that the upper segment becomes lowest. The species are natives of various parts of the East Indies: a few have been introduced to our gardens, of which Barleria lapalina, with large yellow flowers, and B. Prioriius, a common swamp plant in Java, are the most remarkable. They all require to be cultivated in a hot-house, and are propagated readily by cuttings. Barleriaceae are common in the province of Bari in the kingdom of the Two Sicilies, situated on the coast of the Adriatic Sea, 43 miles E.S.E. of Foggia, and 113 E.N.E. of Naples, at 21° 20' N. lat. and 16° 18' E. long. The town is well built, and the streets are wide and well paved. The houses are built by a noble and splendid order, on which the light-house is built; it is only frequented by vessels of small burden, not having depth enough for larger ships. Barletta carries on a considerable trade with the countries of the Adriatic; and here most of the corkwine, wool, salt, fish, and other goods of Puglia are embarked for exportation. The country around is well cultivated, especially on the side towards Bari, and interspersed with neat houses. The climate is extremely mild in winter, but is considered rather unhealthy during part of the summer, owing to the great marshes of Salpi on the left bank of the river Ofanto, which enters the sea three miles N.W. of Barletta. In one of the principal streets, near the church of St. Stephen, is a colossal bronze statue, 15 feet high, representing a woman, the symbol of the Emperor Heraclius. Barletta does not seem to have been a place of any importance until after the Norman Conquest. Frederic II. of Sussia granted it some privileges, and his son Manfred resided here, and Barletta is mentioned as the town of the new town of Manfredonia. Ferdinand I. of Aragon was crowned here. After the invasion of the kingdom by the French and the Spaniards in 1501, the conquerors quarreled about the division of the spoil, and the French being more numerous than the Spaniards, Gonzalo de Cordova, who commanded the latter, was obliged to shut himself up in Barletta, where he was besieged, or rather blockaded, by the French under the Duke de Nemours. The Spaniards, having received reinforcements from Sicily and Brazil, under Francisco da Gama, defeated in two battles, one at Seminara, 21st April, 1503, and the other, on the 28th of the same month, at Cerignola in the plains of Puglia, in which last Gonzalo commanded in person, and the Duke de Nemours was killed. During the siege, a number of men of his men after which the French evacuated the whole kingdom. During the siege of Barletta, the celebrated challenge took place between thirteen Italians, who became the corps of Prospero and Fabrizio Colonna, which served under Alexander, attached to the French, and were driven from the besieging army. Some expressions derogatory to the Italian character which were uttered by a French knight occasioned the challenge. They fought, 18th of February, 1503, in a field near Quarato, half-way between Barletta and the coast, in the manner of a battle of chivalry. The famous Bayard and Prospero Colonna were the umpires. The result was, that the French champions were unhorsed and wounded, and one of them, Pietromonte by birth, was killed. Barletta was restored on each side as prisoners, until taken by a ransom of 100,000 ducats in gold each, as it had been previously stipulated. This curious event, although related by

Demiani, with all the particulars of the correspondence before the fight, the names of the champions, &c., as in a book printed at Naples in the same year, 1503, which is celebrated on the MS. of Vida's poem, which was published under the title of M. H. Vida, XIII. Pugilium Certamen, Milan, 1818. It has also furnished the subject of an historical novel called Verore Furtum, or la Doppia di Barletta, Milan, 1833. The cathedral of Barletta is a Gothic building, with a high steeple; the interior presents nothing striking, except some ancient granite pillars brought from Canosa. Barletta is surrounded by an old wall, and has a citadel which contains, 18,000 inhabitants. It is a thriving place, and among the most pleasant townships of the kingdom. It is frequented by Dalmatian traders, who cross the Adriatic in their small vessels.

Barley is a grain too generally known to require a minute description. It is readily distinguished from other grains by its pointed extremities, and by the rough appearance of its outer skin, which is the corolla of the flower closely enveloping the seed, and, in most varieties, adhering strongly to it.

Botanists place barley in the family of the Gramineae, and Linnaeus has classed it in the second order of his third class (Triandria digynia), having three stamens and two petals in the flower. For its botanical characters, see Hordeum.

Barley, according to the most antient authors, formed a principal part of the food of man in the early ages, and continues to do so at this day, in many countries where the progress of agriculture and the increase of population has not yet enabled the inhabitants to exchange the coarser barley loaves for the more palatable and nutritious wheaten bread, and where the soil is not well adapted to rye, or the climate to oats.

Of all the cultivated grains, barley is perhaps that which comes to perfection in the greatest variety of climates, and is consequently found over the greatest extent of the habitable world. It bears the heat and drought of tropical regions, and ripens in the short summers of those which verge on the frigid zone. In genial climates, such as Egypt, Babylon, and the south of Spain, two crops of barley may be reaped in the same year, one in spring from seed sown the preceding autumn, and one in autumn from a spring sowing. It is the usual practice: in Egypt, the first crop of barley is mentioned which desolated Egypt, in consequence of the refusal of Pharaoh to let the children of Israel depart: 'The flax and the barley were smitten, for the barley was in the ear, and the flax was full grown, and the rye were not smitten, for they were not come up.' Commentators agree that this event happened in the month of March; the first crop of barley was therefore nearly ripe, and the flax ready to pull; but the wheat and the rye sown in spring were not yet sufficiently advanced in growth to be injured by the hail.

Agricultural writers in general have distinguished the different species of barley, either from the time of sowing them, into winter barley and spring barley, or, from the number of rows of grains in the ears, into six-rowed, four-rowed, and two-rowed, or flat barley. Another distinction may be made between those which have the corolla strongly adhering to the seed, and those in which it separates from the grain. The former are called naked barley, and the latter are not. Without entering into any discussion whether these differences are sufficient to constitute distinct species, or are to be considered as varieties produced by climate, soil, or cultivation, we shall only observe that those kinds which are hard, and will bear the winters of our climate, may also with success be sown in spring, as is the case with the Scotch bero or big. There seem, in fact, to be only two very distinct species of barley generally recognized: one from which all, except the two others barren, forming a flat ear, with only one row of grains, are derived; and the other, on which the young sprouts are compressed into a globular head, as in our common field-barley. The first species has sometimes the middle floret small or abortive, and consequently only four rows of grains, giving
the ear a square appearance, but that this is only an occasional deviation is proved by its returning to the perfect ear with six rows, in rich soils, and under proper cultivation.

In some varieties of both kinds the seeds stand more apart from each other, and at a greater angle with the rachis; the ear is also shorter, giving it the appearance of a bat or fan, whence it has been called Battledore Barley; it is also known by the name of Spreader Barley. In a sense the corollas separate from the seed when ripe, and the awns fall off; these are the naked barley. Each of these has been a repute at different times, and is worthy of the attention and careful cultivation of the practical and experimental agriculturist.

Winter barley is mostly sown in those countries where the winters are mild, and the springs dry, as in the south of France, Italy, and Spain, or in those where the snow is deep all the winter, and where the sun is powerful immediately after the melting of the snow in the spring. In some parts of Russia, Poland, and some parts of North America. In most climates, where the winter consists of alternate frosts and thaws, and the early part of spring is general, as well as in England, Scotland, and Ireland, the young barley is too apt to suffer from these various tudes, and the spring-sown barley gives the more certain prospect of a good crop: but the grain of the latter is seldom so heavy as that which has stood the winter, and, being harvested later, it interferes with the wheat harvest, which is an inconvenience.

The winter-sown barley is generally of the six-rowed sort, of which the beer or bigg is an inferior variety, but being hardy, and of rapid growth, it is well suited to exposed situations and inferior soils. The Siberian barley of which, with naked seeds, has been highly extolled by foreign agricultural writers, especially by Thury, under the name of Hordeum coelestis, seems to be a superior sort in rich soils, not only for its heavy and nutritious grain, but particularly in it is said to approach to the generality of rye, but also for its succulent stems and leaves, which make it by far the best sort for sow for the purpose of green food for cattle and sheep, and if fed off early, the roots well, the rich soil, shoot out an abundance of fresh stems, and produce a good crop of green at harvest.

The barley most commonly cultivated in England is that which has only two rows. It is almost universally sown as spring. The varieties produced by difference of soil and cultivation, as well as by seed occasionally brought from other countries, are innumerable; they have been derived by most agricultural writers into the early or rath rye sorts, as they were called, and the late rye, from the period of their being fit to reap. But this is a distinction which a not very accurate. It is well known that hot grains bring any grain to perfection in less time than the stronger and colder sorts, and that the produce acquires from the soil in which it grew a disposition to ripen earlier or later. This property it retains for a few seasons, by some modification of its vegetating power, to which, of a better name, that of habit may be given, being analogous to the alterations produced on being managed by habit. Thus seed sown repeatedly in a light dry soil becomes rath rye, and that on the heavy moist land late rye, although originally the same. The rath rye grain is always less heavy than the late rye, and from these circumstances the experienced cultivator of barley chooses his seed from such land as may modify the habit produced by his own, giving him a crop with as grain as his soil can produce, and within a convenient period.

The common or Norfolk spring barley, so called because it is the principal sort cultivated in that country, has a moderate-sized ear, containing from ten to fifteen seeds on each side, on an average (fig. 2). The straw is not very strong, and makes good fodder for cattle in winter. Some prefer the long-cared, which contains from twelve to twenty seeds in a row, but it has a weaker straw, and is subject to be beaten down by rains from the weight of the ear. Various varieties have been in great repute at different times. Some were first introduced, and then seem to have degenerated and lost their superiority. Of this kind is the Middlesex barley. This barley was much sought after some years ago, and was called the Hampshire barley (fig. 3), so called from the general reputation, at first brought it into notice. It is said that saving the ear of barley in his field greatly superior to the rest, boldly saved the seed, and cultivated it so as had a sufficient quantity to sow it in a field.
extremely multiplied and diffused through the country. Some eminent malsters and brewers have declared, that it contains more saccharine matter than any other sort; and the trials hitherto made have convinced many agriculturists that it is not only heavier in the grain, but also more productive. In 1832 Mr. Coke of Norfolk, who is always foremost in all agricultural experiments and improvements, sowed a considerable portion of land with this barley, and the result is said to have been perfectly satisfactory. In the year 1833 the writer of this article sowed two acres of Chevalier barley in the same field with some of the best of the common barley. The soil was poor light sand, but in good order and very clean. The produce of the whole was nearly the same, four quarters per acre, but the Chevalier barley weighed 57 lbs. per bushel, while the common weighed only 52. This gives the farmer an advantage of nearly ten per cent. The sample was very fine, and the whole that he could spare was eagerly purchased by his neighbours for seed at his own price. It is long in the ear and very plump, and the plants tiller so much, that half a bushel may be saved per acre in the seed. This is probably owing to its grains being all perfect, and vegetating rapidly. The straw, like that of the other long-stared barleys, appears weak in proportion to the ear; it is said also to be harder, and not so palatable to cattle. These circumstances which experience alone can ascertain. That hitherto it has a decided superiority over the common sorts, no one who has tried it fairly in well-prepared land seems to deny; but unless great care be taken in cultivating picked parcels for seed, selecting the finest ears and plumpest grain, it will probably share the fate of its predecessors—degenerate, and lose its reputation. Might not the cultivation of the various kinds of grain purposely for seed be more generally practised, and form a distinct branch of agriculture? And would not this be well adapted to small occupiers and cottagers, who may have had allotments of land given or let to them, to enable them to live by their own labour and industry, without parochial aid? Thus the good qualities of any grain might be perpetuated, new varieties might be produced, and the defects

A plant to which the barley is related produces several stems from the crown of the root (fig. 6) at the season of the hay.
time to tiller before the hot weather draws up the syna-

th are, however, seasons when the later sowings are

ested; a good rule is to sow a quick-growing sort when

sure tiller need only be slightly covered, and will tiller not-

The depth at which the seed should be deposited de-

ends on the nature of the soil and the season. Where

barely need only be slightly covered, and will tiller aston-

ingly in good light soils. The examination of two roots,

one of which (Fig. 5) proceeded from a grain dropped on the sur-

face of the soil, and the other (Fig. 6) buried one or two

inches under the surface, clearly shows the difference. In

the first, the crown (a), from which the stems tiler, has the

seed still adhering to it; in the other they are separated by

a strong tough ligament (c). This forms two distinct

zones, from which the roots spread; and, in very light soils

and dry seasons, the roots, springing immediately from the

seed, are less exposed to be dried up. But in stiff soils

the seed, buried deep, may have much difficulty in germinating,

the air not having sufficient access, and the first shoot, which

forms the ligament (c), not being able to pierce the compact

soil above it. As a general rule, a depth of from one and a

half to three inches, according to the nature of the soil, is

most likely to enable the seed to sprout well, and give a

sufficient hold of the land by the roots to avoid the danger of

blowing. However, the depth of deposition is best ad-

apted at a uniform depth, to ensure their shoots rising at

the same time: for where some rise earlier and some later,

it is impossible to reap the whole in good order; some of

of the ears will be too green, while others are exhausting

the seed from being too ripe. This is one reason why the

drilled crops are, in general, so much more regular in

growth than the broadcast. After sowing barley it is useful

to pass a light roller over the land, across the stitches, if

there are any, to press the earth on the seed, and prevent

too great evaporation of the moisture. When the plants

begin to tiller, another rolling, and in some cases a slight

harrowing, to loosen the surface and thus out the places

where they grow too close, is very useful. Thus also the

best seed will be scattered with the grass seeds, if not done with

the first rolling. Barley is not usually hoed, because the land

should be perfectly clear of weeds and their seeds, before it

is sown; but if hoeing is thought necessary to loosen the

"The word "deposited" is corrected to "sown.""

This practice has been alluded to in the article ARABLE

LAND, and is common in the heavier soils of Essex and

Suffolk. The loss of time by so long a fallow is amply

repaid by the state of the land and the subsequent crops.

It was once the universal custom to sow wheat after a fallow

and barley after wheat, unless clover was sown with the

wheat, which was the first step to improvement; but after

the barley another fallow became necessary. By sowing

barley after the fallow, the land is much more perfectly

cleared, and the clover sown with the barley is the best pre-

paration for the wheat, which may be succeeded by beans,

and if these are well manured and properly hoed, another

crop of wheat may be taken before a second fallow is neces-

sary. By comparing the probable produce of the two dif-

ferent rotations, the advantage will be evident in favour of

that which begins with barley.

In some particular cases, however, when a very dry au-

tumn allows the wheat stubble to be ploughed and well

drilled before winter, and several ploughings and harrow-

ings can be given in spring, barley may be sown with ad-

vantage after wheat; but then it is seldom advisable to sow

clover and grass seeds with the barley, the land not being

sufficiently free from weeds.

But the Trifolium incarnatum, lately introduced from the south of France, if it

should succeed well in our climate, would be admirably

adapted to be sown on the barley stubble: the land being

slightly ploughed or scarified immediately after harvest, and

the seed rolled in. It will grow rapidly in spring, but if

another fallow is sown clover and grass seeds, if not done with

the first rolling. Barley is not usually hoed, because the land

should be perfectly clear of weeds and their seeds, before it

is sown; but if hoeing is thought necessary to loosen the

Fig. 5.  

Fig. 5.  

The quantity of barley sown formerly was four or five

bushels per acre: but, if the land is duly prepared and the

seed good, from two to three bushels is an ample allowance,

especially if sown by the drizzling machine, which it always

ought to be; for if the land be too rough to allow of drizzling,

it is scarcely fit to sow barley in, and oats will be a more

advantageous grain.

The proper time for sowing barley depends much on

the season and the state of the land. The best practical rule is

to sow as soon as the middle of March as the ground is

dry. Earlier sowings may sometimes succeed well, but in

this climate, cold wet weather often prevails in the end of

February and beginning of March, and this is by no means

favourable to young plants of barley. The early-sown crops

are however in general the best, especially the sort

which ripen later; they require less seed, having more

A root of sown barley in a light fertile soil.

The same in a poor stiff soil.

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is required to the crop till harvest, unless some docks or thistles should make their appearance, which must then be carefully pulled up.

The practice of sowing clover, rye grass, or other seeds, with the barley, is almost universal, and is considered as one of the great modern improvements in agriculture. There is no doubt a great advantage in having a profitable and improving crop to succeed the barley, without further tillage; and clover prepares the land admirably for wheat. Still there are some doubts, whether this be profitable in all cases. There are seasons when the clover materially injures the barley by its luxuriance; and, in wet seasons at harvest, it is very difficult to dry the straw sufficiently, mixed as it is with the succulent stems of the clover, or to prevent its heating in the stack. The clover, as far as the barley is concerned, may be looked upon as a weed, which, like all other weeds, must take a part of the nourishment from the crop, and check its tillering. If the clover is sown late among the barley, the danger is less. It will not be able to grow so high as to do much injury, but the fear of losing the plant of clover makes most farmers prefer sowing it soon after the barley.

In Flanders, clover is seldom, or never, sown with barley, but chiefly with rye; but they sow a species of white carrot, instead, in the sandy soils. These push out very little of the green top, but shoot their fibres downwards, which form the rudiments of the carrot. After harvest, the ground is well-harrowed, and watered with liquid manure. The carrots, which could scarcely be observed above ground, soon spring up, and a good crop is secured before winter, extremely useful for feeding cattle and swine, and greatly increasing the urine of cows and bullocks, the favourite manure for light soils in that country.

As soon as the ears of the barley begin to droop and lose their purple hue, acquiring a light straw colour, before the grain is quite hard, it should be reaped. This is usually done by mowing it with a scythe, having a hoop, or an appendage called a cradle, fixed to it, so as to lay the

swathe regularly: but where there is a sufficient supply of labourers, at reasonable wages, it is far more profitable to have it reaped with the sickle, or, what is better, with the Hymaule scythe, a short, broad scythe used with one hand, while a light hook is held in the other to lay the straw even, so as to be readily tied up into sheaves. A little practice enables a man to reap twice as much corn in the same time, with this instrument as with the reaping-hook. Binding into sheaves is a great advantage: much less corn is shed, which, in the common method of raking into heaps, often amounts to more than would fully sow the same extent of land. The sheaves set up on end are in less danger from the weather, and when the stack is built, all the ears may be laid inward and much grain saved, which, if on the outside, would soon be the prey of birds: smaller stacks may be made, and the danger of heating entirely avoided. The stacks should be built on frames, supported by stone or cast-iron pillars, with flat caps on them to keep out vermin; and, in large stacks, it is useful to have a kind of open cage in the middle, to allow the admission of air to the centre. This dries the grain better than a kiln, and when the stack is properly thatched with straw, the crop may be considered as safe till it is carried into the barn to be threshed. [See Harvest, and Farm.]

Barley requires care in threshing, to break off all the awns close to the grain. A threshing machine does not accomplish this perfectly by only once passing the straw through the rollers; it is consequently usually put through a second time, especially if it has not been tied into sheaves. It is often necessary, after the barley is threshed, to effect this by another operation, which is called hummeling, for which purpose several different kinds of instruments are used. A simple one consists of a cylinder composed of small bars of iron, and placed on an axis, which is rolled backwards and forwards over the grain; or, where a threshing machine is used, a plate of iron, perforated like a nutmeg-grater, is fixed to the inside of the drum in which the beaters revolve, and the awns are effectually broken off by this rough surface.

The diseases to which barley is subject while growing are those which attack all other grain—the smut, the burnt ear, blight, and mildew; but it is less liable to these than wheat. The greatest enemy is a wet harvest. It is so apt to germinate with the least continuance of moisture, that even before it is reaped, it often exhibits an ear in full vegetation, every grain having sprouted (see fig.). It is then of little value, and even when this is checked by dry weather or in the kiln, the grain is so impaired as to be fit only to feed fowls and pigs. A strong plant of clover, by keeping the wet longer about the barley, often contributes to increase this evil, as has been hinted before.

The principal use of barley in this country, and wherever the climate does not permit the vine to thrive, and no wine is made, is to convert it into malt for brewing and distilling. [See Malt.] The best and heaviest grain is chosen for this purpose, and, as it must have its germinating power uninjured, the least discoloration, from rain or heating in the stack, renders it suspected, and consequently not so saleable. It is, however, still fit for being ground into meal, for feeding cattle and pigs, when it is not
used for human food; it may be made into pot barley by the process of shelling. [See Barley, Pot and Pearl.]

The produce of barley, on land well prepared, is from 10 to 50 bushels, and more, per statute acre, weighing from 45 to 55 lbs. per bushel, according to the quality. It is said to contain 65 per cent. of nutritious matter; wheat contains 79 per cent. A bushel of barley weighing 50 lbs. will therefore contain about 22 lbs. of nourishment; while a bushel of wheat weighing 60 lbs. contains 47 lbs. Good oats weighing 40 lbs. contain about 24 lbs. of nutritious substance; so that the comparative value of wheat, barley, and oats, in feeding cattle, may be represented by 47, 32, and 24, the measure being the same. It is remarkable that, allowing some addition to wheat, as more generally used for human food, these numbers very nearly give the usual proportions between the prices of these grains. The experiments on which this calculation is founded were carefully made by Einhof, and confirmed, on a large scale, by Tischel, at his establishment at Mogeln, the account of the results being accurately kept.

On all good loamy soils barley is a more profitable crop than oats, because of the soil less. On stiff cold clays it does not thrive so well, and there oats are to be preferred. In some districts, where the best barley is grown, the farmers seldom sow oats, and many prefer buying them for their own use, with the additional expense of market and dung. In Scotland, and some parts of Ireland, oats are in greater request, being the chief food of the labouring classes, and preferred by them to barley, except it be in the form of pot barley in their broths.

Barley in its green state, especially the Siberian winter barley, sprouts better than any other cereal grain. A crop of grass, as it is well known to the cow-keepers about London; it comes in early, and greatly increases the milk. It is also very good for horses, provided it be given sparingly at first, as it purges them; but after a little time, when the stomach becomes accustomed to it, it increases their flesh and condition wonderfully, and is much more wholesome than the usual spring physic, as it answers the purpose of gently clearing the intestines, without any risk of irritation. For sheep it is as agreeable as oats; and when fed off quite close in April, it will spring up again, and, on good land, produce a fair crop of grain in August, but in general it is ploughed up as soon as it is fed off, and succeeded by spring tares or turnips.

Barley has always been esteemed as possessing medicinal virtues; decoctions of it have long been used for the sick, especially in all pulmonary complaints; and, with the addition of some vegetable acid, it is extremely grateful in fevers, allaying thirst, and giving such a degree of nourishment as is indispensable, without exciting the circulation.

M. Theodore de Saussure has carefully analysed the ashes produced by burning barley and its straw, and we shall close this article with the result of his experiments. [Recherches Chimiques sur la Fungation, 1804.]

The grain reduced to ashes with its skin gave, out of 100 parts, 18 of ashes, which contained:

- Potas
- Phosphate of potas
- Sulphate of potas
- Muriate of potas
- Earthy phosphates
- Earthy carbonates
- Silica
- Metallic oxides
- Loss

1000 parts of the straw produced 43 of ashes, containing:

- Potas
- Sulphate of potas
- Muriate of potas
- Earthy phosphates
- Earthy carbonates
- Silica
- Metallic oxides
- Loss

100

These products no doubt vary in different soils; but the proportion of ashes in the straw and in the skin of barley is remarkable. This barley grew in a chalky soil.

BARLEY-BREAK, a popular pastime of the reign of James I., allusions to which repeatedly occur in our old poems. It was indulged by ten people, the sides were coupled by lot. A piece of ground was then chosen, and divided into three compartments, of which the middle one was called hell. It was the object of the couple condemned to this division, to catch the others who advanced from the two extremities, in which case a change of situation took place, and hell was filled by the couple who were excluded, by pre-occupation, from the other places. In this 'catching,' however, there was some difficulty, as, by the regulations of the game, the middle couple were not to separate before the others had sat, allowing some addition to wheat, as more generally used for human food, these numbers very nearly give the usual proportions between the prices of these grains. The experiments on which this calculation is founded were carefully made by Einhof, and confirmed, on a large scale, by Tischel, at his establishment at Mogeln, the account of the results being accurately kept.

Several pastoral descriptions of this amusement are extant: one is a Barley-break, or a Warning for Wanters, written by W. N. Gent, 4to, Lond. 1607; another is by Philip Sydney's Arcadia; and a third in Sir John Suckling's Poems, which has been quoted by Brand in his Popular Antiquities, vol. ii. p. 276, and by Gifford in his Notes to Masquerier.

Dr. Jamieson, in his Etymological Dictionary of the Scottish Language, gives an account of this game as it is still used in the north of Scotland. He calls it a game which 'very properly is part of the natural economy of the north of England, oats are in greater request, being the chief food of the labouring classes, and preferred by them to barley, except it be in the form of pot barley in their broths.

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- Earthy carbonates
- Silica
- Metallic oxides
- Loss

100

1000 parts of the straw produced 43 of ashes, containing:

- Potas
- Sulphate of potas
- Muriate of potas
- Earthy phosphates
- Earthy carbonates
- Silica
- Metallic oxides
- Loss

100

These products no doubt vary in different soils; but the proportion of ashes in the straw and in the skin of barley is remarkable. This barley grew in a chalky soil.
each other as possible, making the inside of the case rough, like a nutmeg-grater. A square opening in this case, with a sliding door over it, serves to let out the barley after it has been sufficiently ground. In order to loosen the skin without rendering the substance of the grain too soft, the barley, which is chosen dry and hard, is sprinkled with water on the floor, and turned over two or three times in the course of eight or ten hours: it is then fit to be put into the mill. The upper stone is made to revolve from 200 to 300 times in a minute. The barley, gradually supplied from the hopper, is carried round in the grooves of the upper stone and rubbed on the under without being broken. The centrifugal force and the strong current of air produced by the grooves and the rapid motion, drive the grain, partially ground, against the rough case, and complete the removal of every part of the skin. It is then let out through the square opening, and falls on a sieve, which separates the naked grain from the bran. This is pot-barley. To make pearl-barley, the operation is continued till the required degree of fineness is produced. As the greater part of the finer particles of the barley ground off escape through the holes in the case, it is surrounded by another to collect this meal, or a cloth is fixed all round, which lets it fall gently in a bin below; thus nothing is lost. This meal is esteemed for cattle, swine or poultry. The great objection to mills of this construction is, that they require great nicety in the adjustment of the stones, and are very apt to waste the barley by grinding it unequally, and that, at all events, the larger grains are more ground than the smaller, but for, which barley of uniform size this is rather an advantage. But, on the other hand, the process goes on without interruption, and if two or more pairs of stones are placed under each other, the barley may pass from the first into the hopper of a second, and from this into a third, so as to come out of the last of any required degree of fineness. It may be observed, that the principal use of the upper stone and its grooves is to carry the barley round and throw it against the case, and therefore any hard wood, with similar grooves, will answer the pur [p. 468] pose as stone; and this is said to be the construction of several of these mills. (See Nouveau Cours complet d'Agriculture pratique, Paris, 1820, article "Orge polie." )

The other kind of mill, which we shall now endeavour to describe, is in general use in Scotland, where most of the pot and pearl-barley used in this country are prepared. It was originally introduced from Holland, whence formerly all Europe was once supplied with pearl-barley, commonly called Dutch pearl-barley.

This mill consists of a common grindstone such as cutters use, about three feet in diameter, revolving vertically on a horizontal axis. A case, similar to the one already described, revolves on the same axis, and in the same direction, with a slower motion. Sometimes the flat sides of this case, as well as the rim, or circumference, are composed of perforated plates of iron, but this is not absolutely necessary. The barley, prepared as before, is put in by a square opening in the circumference, the slide shut, and the machinery is set in motion, until the barley, tossed between the stone and the case by the double motion, has been entirely deprived of its skin, and is become pot-barley; or till it is ground into the small round shape of pearl-barley. The mill is then stopped, the slide pulled out, and the case being turned so as to have the opening underneath, the prepared barley falls out into the bag, or bin, placed to receive it. It scarcely wants any sifting, for such is the violence with which the grain has been tossed about, that all that is ground off is driven through the holes in the case, and is collected in a close chamber which surrounds the apparatus, and in the other mill. The mechanism by which the motions of the stone and case are produced is extremely simple, and will be easily understood by reference to a figure, which, although taken from a portable hand-mill for making pearl-barley, is on the same principle as the larger. This portable mill is made by Wilkinson, in Oxford street, and may also be used for shelling rice.

A. section of the stone turned by the axis D. B. section of the case which turns on the axis D, by means of brass bushes in its centre.

C C, a wheel having sixty teeth, or cogs, fixed to the side of the case.

C E, a smaller wheel, or pinion, with fifteen teeth, moving the wheel C C, and fixed on the axis F F, by which the whole is moved.

G, a wheel with sixty teeth, on the axis F F, moving the pinion H, which has twelve teeth, with the axis D D, which carries the stone.

I I, Fly-wheel, which equalizes the motion of the whole. Thus by turning F F once round, the wheel C C and the case perform one-fourth of a revolution, and G H with the stone, five revolutions: so that the stone makes twenty revolutions for one of the case; and if the axis F turns once in a second, the case turns fifteen times in a minute, and the stone 300 times. This is the usual velocity in large mills. A hand-mill may be moved with one-half or two-thirds of this velocity, the stone being also smaller. When the power is sufficient to turn a stone three feet in diameter 300 times in a minute, three bushels of barley may be converted into pot-barley in an hour, and into pearl-barley in two hours.

The advantages of the mill figured in the next page are considerable. It requires no very nice adjustment, and is not easily put out of order. The stone may continue in use, although considerably worn down, even to half its original diameter. There is no danger of crushing any of the grains, nor much waste; and whatever be the size of the grains it grinds them equally. If the pearl-barley is required very equal in size, it may easily be sorted by wire sieves, as the different sizes of shot are. The only defect of this construction is the loss of time and of power which it occasions, by the case being stopped to take out the prepared grain and replace it by fresh barley. Ingenuity will probably find means of removing this defect; but we are not aware of any late improvements in the construction of these mills.

Pot and pearl-barley are very wholesome and nutritious, and have a more agreeable taste than barley-meal: and it is to be regretted that they are not more used as food by the
labouring classes in England, as they are in Scotland, Germany, and Holland. The essential oil of barley, which gives it its peculiar taste, resides chiefly in the skin and adjacent parts of the grain; the interior is a purer farina, more nearly resembling that of wheat. This has probably suggested the idea of removing these outer parts, as less palatable, and given rise to the manufacture of pearl-barley, the farina of which approaches nearer to pure farina, or starch. This farina, obtained by grinding pearl-barley in a common mill, is sold under the name of patent farina, and used extensively for readily making barley-water for the sick. But if the essential oil of barley possesses any medicinal properties, it is evident, from what was observed before, that common pot-barley would be preferable for making a decoction of barley when prescribed as a remedy. The great use of pot and pearl-barley is in broths, stews, and puddings, as a substitute for rice. It swells, and has the property of uniting well with the fat and oily matters extracted from meat in boiling. Barley-broth is a constant and principal dish at every family dinner among the middling ranks in Scotland, and not despised by the higher. Even the bran, having been steeped in water, and allowed to ferment till it becomes acid, is relished by the lower orders in the wells called soxorns. In Holland, pot-barley, boiled in butter milk and sweetened with treacle, is sold for children and servants; and however unpalatable this may appear to some tastes, early habit and association make this, as well as the soxorns, a kind of luxury to many.

BARLOW, JOEL. An American author and diplomatist. He was a boy at school when his father died, and the small portion of the patrimonial estate which fell to his share barely sufficed, with economy, to secure him the advantages of a liberal education. In 1774 he entered as a student at Yale College, New Haven, where, in the course of the preserved exercises in composition, he displayed such a taste for poetry and talent of versification, as procured him some reputation among his fellow students, and introduced him to the particular notice of Dr. Dwight, then a tutor in that college. Having gone through the usual course of study, Barlow, in 1778, took the degree of Bachelor of Arts; and on leaving college, at first applied himself to the study of the law, though it appears not with much success. Four of his brothers were in the revolutionary army, and he himself, during the college vacations, been accustomed to join the army as a volunteer, in which character be was present at several skirmishes, and in one of the severest conflicts that happened during the war. These circumstances inclined him to listen favourably to the suggestions of some influential friends, who advised him to qualify himself for the office of a chaplain in the Massachusetts line of the American army, and intimated to him that his examination in theology would be very indigent. Accordingly, he applied with diligence to theological studies for about six weeks, at the end of which he was licensed to preach as a Congregational minister, and immediately after re-joined the army. Barlow remained in this situation until the end of the war. In 1781 he married Miss Baldwin of New Haven, and during the same period he occasionally occupied himself in the composition of patriotic songs and addresses, which, with those of Dr. Dwight and Colonel Humphreys, are considered to have given much effect in inspring the American society. While in the situation of chaplain, he also planned and nearly accomplished his poem on the discovery and prospects of America.

When Great Britain acknowledged the independence of the United States and the American states, or, rather, when the war of the year 1783, almost every one who had been in the army had either a new profession to seek, or an old one to resume. Barlow declined the duties of a parochial minister, and resided in his original profession of the law. With this view he proceeded to New York, and there, as the world is, for a time, he grieved, for life. But his habits of mind were not favourable to success at the bar, and he soon found it expedient to make some addition to his means of subsistence by the establishment of a weekly newspaper. He also employed himself in preparing for the press the poem he had alluded, The Vision of Columbus, which was published by subscription in 1787. This work not only extended his reputation in America, but made him known in Europe.

Barlow landed in London in 1780, and remained there a few months, and has since gone through a second edition in America and one in Paris. The reputation he had by the time acquired procured him a commission from the clergy of Connecticut to adapt Dr. Watts's version to the use of New England churches, but this is in use at the present day. He then gave up his newspaper, and became a bookseller, in order to promote the sale of his Poems and his Vision of Columbus; and when he had effected these objects he relinquished business, and retired to his literary pursuits. He endeavoured to induce the legislature to abandon the law, in order to proceed to Europe as the agent of a company of speculators for the sale of certain extensive tracts of land on the Ohio river.

Barlow landed in England in 1791, and returned to New England in 1791, with the intention of remaining for a year or two, and then returning to the United States. In the meantime he became much interested in his progress and prospects of the French Revolution, and as he was one of the leaders of the republican party, particularly with those who afterwards belonged to the party termed 'Grunards.' During his stay in London Barlow formed also a close connection with the large body of men, who, at that time held republican and revolutionary principles, and among whom such a man was well calculated to acquire influence. In 1791 and 1792 he produced some political works which increased his reputation with his own party, and added something to his pecuniary resources. These were his Speeches to the Privileged Orders; The Constitution of Kings, a poem of about four hundred lines, relating to the constitution of the continental sovereigns against France; A Letter to the National Convention; and Royal Recollections. All these works were highly commended by the political leaders of the time.

The return to America which Barlow contemplated was frustrated by his nomination, jointly with a person named Frost, to go over to France, and present to the National Convention an address from the association calling the 'Constitutional Society' in London. He was to be absent only three weeks, but in the meantime the fact that 'two fellows' had gone to France as the representatives of the British nation, was noticed in parliament in such a manner that Barlow did not consider it prudent to return to England. In France he was received with much good will, and, soon after his arrival, the rights of a citizen were conferred upon him. He then accompanied the deputation of the National Convention which was sent to Chatham to represent the interests of the peace department of the republic. His stay there during the winter was marked by the publication of A Letter to the People of Piedmont on the Advantages of the Revolution, and the Necessity of adopting its Principles in Italy. This address was largely enlarged and elaborated in the French language and a translation from the former was printed in England without the author's knowledge. He also wrote a comic opera, The Soldier's Dream, composed of a part of some of his own revolutionary verses, as the happiest and most interesting of his productions.

In the following three years of his residence at Paris, he made translation of Volney's Ruins. He now began to perceive that his neutral position, and the extensive communication by which he was furnished, might be turned to good account in commercial speculations, in which he embarked with such
success as ultimately enabled him to realise a considerable fortune, and to live in Paris with some degree of splendour. He was in that city in 1795, when he received from his own country the appointment of consul-general at Algiers, with instructions to proceed to Barbary, and conclude treaties with the several states for the purpose of procuring the liberation of such American citizens as were kept in slavery.

In the face of much obstruction and danger, he accomplished this beneficent work, and then gave up his consulship and returned to Paris, where he resumed his commercial pursuits. It was not until 1803, after an absence of seventeen years, that he returned to his native country.

After his return, Barlow appears to have chiefly employed himself in the collections of a series of Engravings of Coins and Medals, under the title of The Columbiad. No expense was spared in the external preparation of this quarto volume, which was by far the most splendid that America had yet produced. In preparing this volume, however, Barlow committed a serious miscalculation. The cost of its production rendered it necessary to fix a price which the American market could not bear, and accordingly very few copies were sold; but the work was reprinted the year following in a less costly edition, and hundreds of copies were sold in London. The Columbiad has not, however, attained the popularity and circulation which the original Engravings of Columbina enjoyed; and in most respects it is a failure in comparison with the original work, with which it can be compared.—The Lusitania of Camoens.

In attempting an epic it is obvious that Barlow much over-rated his own powers; his poem is rather awkwardly planned and poorly executed, and replete with most inappropriate political declamations. Yet it is an interesting instance of the power of the imagination and of the influence of a great work. Barlow employed himself in collecting materials for A History of the United States, a work which he had long contemplated. In the midst of these pursuits, the President Madison, who held him in high esteem, appointed him minister-plenipotentiary to the court of France. This appointment was warmly contested in the senate, but passed by a small majority, and, in the year 1811, Barlow once more embarked for Europe.

He landed at Cherbourg in September, 1812, and immediately proceeded to Paris, where he was received by the minister of foreign affairs, and immediately applied himself to the duties of his new station, particularly to the accomplishment of the specific object of his mission, which was to negotiate a treaty of commerce with France, and to obtain indemnity for former spoliations. In the progress of this affair, it became desirable that he should have a personal conference with the emperor, who had then commenced the Russian campaign of 1812. He hastened to Paris, and in January was exposed to such privation and hardship in his progress through countries wasted by contending armies, and in a most inclement season, that his strength was exhausted, and an inflammation of the lungs came on, under which he rapidly sunk to a state of extreme debility. He died on the 26th of December, 1812, at Zarnawica, a small village in the neighbourhood of Cocow, in the 58th year of his age. (Public Characters, 1806; Biographie Nouvelle des Contemporains, &c.)

BARLOWE, WILLIAM, died 1625; being then pres-

dency of Winchester, &c. He wrote the Navigator, Supply, 1597; Magnetical Advertisements, 1618; and a work against Dr. Ridley, who had criticised his last-men-
tioned work. This was entitled A Brief Discovery, 1618.

Barlowe is one of our earliest writers on the magnet; being contemporary with Gilbert, 1540—1603. [See Mag-

etism, &c.] We have principally mentioned him here to contrast his views, and the view which I shall give to the effect that he wrote on the phenomena of magnetism before Gilbert. The work of the latter was first published in 1600. But Barlowe had previously treated on magnetical instru-
ments in his Navigator’s Supply, as is slightly mentioned by Jortin, cap. i.

His writings procured him no celebrity on the continent, and we cannot find any mention of his name in any foreign author.

BARMEN. (See BRISTOL.)

BARNET. There are two Burgemasterships, or prov-
inicial districts of this name, in the Rhenish possessions of the Prussian crown: the one, situated in the circle of Jelich and province of Aix-la-Chapelle, contains three villages, and about 1400 inhabitants, of whom 1440 are Roman Catholics; the other, in the circle of Elberfeld and province of Düsseldorf, contains two towns, four villages, and about 23,000 inhabitants. The latter consists principally of the ‘Valley of the Wipper,’ otherwise Wupper, and in the bed of which is a river a few miles along both banks of that stream, between two ranges of hills running immediately eastwards of Elberfeld, and lying within a mile and a half of each other. Its area is not much extensive, but has formerly been, on account of its natural advantages of its soil and situation, so great, that it has become what may almost be termed a vast open town: the central part, where regular rows of houses have been built, where the seat of justice for the district is established, and in which there are collages, schools, a deaf and dumb asylum, &c., is denominated ‘Geme-

are,’ and contains about 700 houses, with a population of about 2800 souls. The Valley of the Wipper, which rose into the seat of manufacturing industry upon the close of the Seven Years’ War, is studded in every direction with larger or smaller works, besides four churches, and about 1700 dwelling-houses. According to Restorff’s enumeration in 1836, it then contained 1977 looms for the manufac-

ture of velvets and velour; 1290 looms for the manufacture of cotton pieces, and 360 for that of silks and ribbons, and 7 manufactories of velvets and velvet ribbons, besides 39 bleaching grounds, 4 dyeing works, 4 factories for the production of chemical preparations, and a variety of other manufactories of woollen stuffs, metal and plated goods, ironware, soap, tobacco, earthenware, &c. The larger establishments, comprising factories, mills, and warehouses, were in the year 1811 about 211 in number, and the number of raw products and manufactured goods annually exported is estimated at between 150,000 and 160,000 cwt. The whole appearance of this busy region indicates successful enter-

prise, and many of the private residences would elsewhere be considered as mansions. The houses and streets have a striking resemblance between the people of Bar- men and the Dutch, betwixt whom an active commercial intercourse has long subsisted; and the virtue of cleanliness is carried to such an extent, says Stein, (Travels, 1827, vol. ii., p. 210), that 'even the untenantilated apartments are washed twice a week.' An Exchange has been erected; and the Wipper has in this valley one stone and four wooden bridges across it. About nine-tenths of the inhabitants are of the Protestant religion, the remainder being almost wholly Roman Catholics. Within this burgemastership is the town or large village of Wupperfeld, with a Protestant church, about 1700 inhabitants, and two annual fairs. Gemarken lies in 5° 16' N. lat., and 7° 10' E. long. (Restorff and Wand.)

BARMOUTH, a small town of the county of Merioneth in the parish of Llan-aber in North Wales, 197 miles N.N.W. from London, and 8 miles S.W. from Dolgelley. It is situated near the mouth of the river Mawddach or Maw, whence it received the name of Abermaw, abe chief river. But it was improved on some considerable trade, particularly in woollens; and a number of small vessels, employed in the coasting trade, still belong to the port. However, its loss in trade seems to have been compensated by its having become a genteel summer residence, and is now frequented by many respectable families from Wales and the adjacent English counties. The bathing is perhaps as fine as any where be found, but the accommodations in the town and on the coast are not equal to the climate. Beach walks and promenades along the beach at low water is much admired, and the views of the distant mountains are striking. The town is chiefly situated on the sloping side of a very lofty rock, which shelters it on the eastern side. The houses, which are indifferently built, are mostly perched in successive terraces, so that the ground floor of one row is nearly on a level with the chimneys of those beneath them,
The communication between these terraces is carried on by a flight of steps. A street below is formed by a few houses built on the terraces with the road, inhabited chiefly by mariniers and fishermen, and defended from the encroachments of the tides, which threaten to overwhelm them, by large hillocks of sand, rendered stationary by the spontaneous growth of the Arundo armaria and Elemac or rushes, on which their long creeping, and ramified roots, keep it firm and tolerably compact. These houses are, however, subject to much annoyance from the sands drifted by the wind.

The petty sessions are held in this town, which has a market on Fridays, and fairs on Whitsunday, the 7th of October, and the 21st of November. In the Population Returns of 1831 no separate return is made for Barnmouth; but its parish of Llanaber contains 228 inhabited houses, with a population of 1418, of whom 846 were females.


BARN, a building in which agricultural produce is stored, to protect it from the weather, and keep it in safety. In all countries where the climate does not permit the corn to be threshed in the field and immediately put into a granary, it is necessary to protect it from the weather; and the most obvious method is to have capacious buildings for that purpose. In insulated all with one or more of these buildings, which formerly were made of such dimensions as to be capable of containing the whole produce of the farm, whether hay, corn, or straw. A great saving has been effected, by the mode of stacking hay and corn on the ground, protected with a slight covering of thatch. In consequence of this improved practice, modern barns are made of smaller dimensions, and their principal use is to contain the corn in the straw which is intended to be threshed out immediately; so that if the barn is capable of containing a threshing-floor, and as much corn in the sheaf as is usually put in a single stack, it answers all the purposes of a larger barn; and thus the expense of the farm buildings is greatly diminished.

The construction of a common barn are too well known to require a particular description; we shall therefore only give some of the improvements which have been made on the common plan, and of some peculiar buildings, which are extremely useful, and not so generally known.

The principal use of a barn in our climate being to thresh the corn in, its construction must be adapted to the mode in which that operation is performed. As many smaller scows, such as clover and the grasses, cannot so well be thus threshed as a floor, a floor is placed immediately under the straw with the flail, is an indispensable appendage to a farm; and the barn is the most convenient place to have it. This floor is commonly placed in the middle, with its length equal to the width of the barn. It also allows the use for carts, which, when loaded with the residue of the harvest, or of the corn taken from a stack, to be drawn over it, and unloaded immediately in the barn. For this purpose large double gates are placed at each end of the floor, of such dimensions as to allow a loaded wagon to be drawn in on one side, and when unloaded, taken out at the other. When the width of the barn is not sufficient for the length of the floor, a porch is added on one side, or both, and in these the gates are placed. Those parts of the barn which are on each side of the threshing floor are called the bays; and in these the corn is placed till it is thrashed. Where there are porches, the roof of the barn is generally brought down to the line of the porch; and thus convenient sheds are formed on each side. One of the defects of this construction, is that the drainage of loaded wagons on the floor materially injures it, even where the precaution is taken of spreading straw over it. In consequence of this, many barns have been constructed with large large gates, and the corn is thrown directly onto the threshing floor, or "patch hole," made by the barn. This has the inconvenience of loss of time, and the risk of damaging the corn in showery weather. The best plan, therefore, is to have a passage for the wagons under the roof. In the fall of the harvest, the corn is put, and safety be unloaded, and if a threshing machine is used, a floor raised about seven feet above the ground will contain the machine at one end, and the unthreshed corn at the other; the lower part may be appropriated to various useful purposes; that part which is immediately under the machine receives the corn and straw after they are separated, and contains the winnowing machines. (See Fig. 1.)

A, the place for unloading the corn; B, a floor seven feet from the ground, on which the corn in the straw is stored; C, the place of the threshing-machines at the end of the floor; D, a chamber under the floor, in which the threshed corn and the straw fall; and the corn can be removed by a couple of E, the shed for the horses to work under; F, a place under the floor, in which agricultural implements are kept; it may be converted into a stable. Double gates at each end of A will shut the whole up; or the end D may be closed by a partition with double doors in it. The windows are latticed.

In this case the seeds may be thrashed on the main floor, which must be made strong and well jointed, to prevent the heaps of straw being raised, the beating of the grain being done in or under the barn, or a partition below. In small farms, where there is no threshing machine, this construction is not so advantageous, the raised floor being unnecessary, still it would be better not to draw the wagons on the floor. The threshing floor may be placed at one end of the barn, the hay unloaded at the other, and the corn deposited between them.

A common threshing-floor is usually exclusive to twenty feet long, and from twelve to fourteen wide: the size must depend on the number of men who work at the same time; this operation being more rapidly performed by three or four men, beating in regular time, than if they worked separately. The labourers generally prefer working singly, but if they are paid according to the quantity of corn threshed, the advantage is with the men. The corn, by winnowing it with the shovel and the fan, (see Isaiah, c. 30. v. 24,) is still very generally practiced, and requires a great length of floor; but the winnowing machines with skreens and riddles has now generally superseded this method.

Threshing-floors are usually made of stone, brick, oak, or tempered earth. The first are the most durable, and where stone can be obtained at a reasonable price, they are in the end the cheapest; but they are apt to become the corn, on that account are not so generally adopted. Brick floors have the same inconvenience, besides that of readiness in bailing moisture, and making the grain feel hot and dusty, which diminishes the value of the sample. Earth floors, when carefully laid, and the materials well tempered, are both cheap and durable, provided the soil on which they are laid is dry naturally, or made so artificially. The following is the manner in which they are constructed. The soil is taken out to the depth of six or eight inches, or more, and if the subsoil is of a moist nature, a layer of gravel and dry sand is laid on the bottom three or four inches thick, and trow smooth and level. A mixture of mud, or loam and sand, with water, to the consistency of common building mortar, to which is added some chalk, or pounded shells, or peat, where these can be obtained, with straw, cow dung, and some bucklers' blood are added, and the whole is well worked up together: this is cast as hard as the prepared bottom with a trowel, about an inch thick, and spread evenly. This is allowed to dry another coat of the same put over, and all the cracks carefully filled up. This is repeated till the desired thickness is produced. When the tine guns to harden, the whole is well rammed with a heavy wooden rammer, and every crack filled up, so as to give it the appearance of a uniform solid body. This is left to harden.
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Hay is now seldom put into a close barn, experience having shown that it keeps much better in the open air in ricks. But where a considerable quantity of hay is baled up in trusses for the market, it is extremely useful to have a Hudson, with a roof to protect them from the wet, and to load the carts under shelter. For this purpose a kind of barn is contrived, which some call a Dutch barn, but which may very properly be called a skeleton barn, being the frame of a barn without the boarding. The annexed figure will convey a better idea of it than any description. The opening in the middle admits a waggon or cart, to be loaded with trusses, which are deposited on each side. At the time of hay-making, this barn is extremely useful to draw a load of hay in, in order to make the appearance of a shower, and hay put into either side will be preserved as well as in a stack. But for this purpose another building is in use in Holland, to which the name of Dutch Barn is more appropriate, and of which we also annex a figure. This consists of a roof supported by strong poles like masts, A A, on which it can be raised or lowered at will. The usual form is that of a pentagon; the poles are at the angles, and kept upright by means of a strong sill on a brick foundation, and pieces B, acting as spars, framed into the poles. The roof is light and covered with thatch. At each angle is a strong block of wood, with a round hole in it sufficient to let the poles pass through; these blocks are kept at any desired height by means of iron pins passed through holes made in the poles, and on which the blocks rest. To raise the roof a small jack is used, an instrument well known by its use in raising heavy waggons when the wheels are taken off. This is placed on an iron pin at some distance below the roof, and the corners are raised gradually, one after the other; at opposite angles, the pins being moved each time one hole higher. The chief use of this Dutch barn is to contain hay that is to be made into ricks and then put into the barn; it is more open and airy than the former and is less exposed to danger from fire and mice. The roof is usually covered with a sort of thatch, which is easily removed without damaging the straw. The walls are generally made of stone, and the barn may be divided into compartments by wooden partitions. The opening is usually large, and the hay is loaded into the barn through a flume or chute. The roof is usually supported by strong poles or masts, which are raised or lowered at will, and the barn is usually covered with a sort of thatch, which is easily removed without damaging the straw.
It was pretended that the remains of St. Barnabas was found in the year 478 at Salamis, with a copy of the Gospel of St. Matthew, and upon this subject of Gymnus, and which Theodorus Lector says was sent to the Emperor Zeno in 485. The supposed remains were sent afterwards to have been transferred to Milan, where he had preached. But other churches, besides Milan, became of his relics. Compare the Acta Sanctorum, June, p. 449-459.

BARNACLE. [See BARNICE.]

BARNARD, SIR JOHN, a merchant of considerable eminence in the City of London, was born at Reading in Berkshire. He was educated at Eton, and at the age of eleven Quakered, by which he was educated at a school in Wandsworth, a Surrey, under a teacher of that persuasion. Being averse to all religious subjects, and seeing occasion to differ from the tenets and discipline in which he had been brought up, he he formed, in his nineteenth year, to the Church of England, and was baptized at Fulham by Dr. Compton, then Bishop of London. He ever afterwards continued a zealous member of the established church.

Previously to the event just mentioned, and when only fifteen years of age, young Barnard was taken into the counting-house of his father, who was a considerable wine-merchant in London, and such were his industry and sagacity, that the concern was soon intrusted to him. When thus engaged, he must have given strong evidence of his talents; for the wine-merchants of London considering that these were would be injuriously affected by the proceedings of a bill which had been brought in to the House of Lords, petitioned the latter house on the subject, and made choice of Mr. Barnard to argue the case on their behalf. A task which he accomplished with so much ability and success, that the bill was withdrawn. At this time Mr. Barnard was appointed under-treasurer of the customs, and in his knowledge upon commercial and financial questions proved a very useful member of parliament; being generally voted with the party opposed to the administration of Sir Robert Walpole.

A dissolution of parliament occurred in the following year, several of his fellow-citizens, recollecting the talent which he had recently displayed, proposed him to be one of their number, and he agreed to the censure present at the meeting undertaking to endeavor for him. Out of six candidates, Mr. Barnard was elected on the poll, and he continued to represent the City in parliament during nearly forty years. From his first election he constantly took an active part in the debates of the House, and according to his knowledge upon commercial and financial questions proved a very useful member of parliament; being generally voted with the party opposed to the administration of Sir Robert Walpole. A bill having been introduced in 1730 by a number of merchants of London, for advancing money by way of loan to foreign princes or states, without license first being obtained from his majesty. Mr. Barnard opposed the measure, on the ground that it would undermine Holland the market of money to the same effect, and would prevent, in a very precarious business, that of granting temporary loans to the King of Portugal, and that the clauses of the bill which would compel the discovery of oath of loans to foreign princes would convert the court of Exchequer into a court of requisition. In consequence of this opposition the bill was greatly modified before it passed into a law.

In 1732 Mr. Barnard, who four years before had been elected a German baronet of the English knighthood on presenting an address to the king respecting his return from Germany. In 1727 Sir John Barnard served the office of lord mayor of London, and in the same year brought forward a bill for reducing the interest of the national debt. England being at that time so low, that the public revenue, which bore an interest of only three per cent., were above par, and Sir John in consequence brought in a bill to enable the government to mortgage the same interest by the sale of annuities, or by borrowing, at an interest and on a lower rate than that sum so raised was to be applied to the redemption of the South Sea Annuities, allowing a preference of subscriptions to the holders of those annuities. At that time the whole of the permanent debt of the nation amounted to not more than forty-six millions, of which some twenty millions, and a half were due to the Bank and East India Company; the measure proposed by Sir John Barnard was defeated by the minister proposed to include in its operation the whole
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of the public creditors, a proposal which was deemed so
chimerical, that the supporters of the bill gave up their
object, and the measure was lost. It is somewhat curious
to observe the strides that have since been made in this
country with regard to financial operations. We have
in one year (1815) fifty millions added to our national
debt, and on each of two more recent occasions (1822 and 1830)
the minister has been enabled to effect a reduction of inte-
rest upon more than 130 millions of annuities; whereas in
1720 and 1730, the same operation was attempted at a simi-
lar price of debt, and the minister was enabled to get a similar opera-
tion in regard to forty-six millions of debt.

In 1745, during the rebellion in Scotland, public credit
received a severe shock, and so much distrust was shown
towards the Bank of England, that the most serious conse-
quenccs to that establishment arose from houses of credit.
Sir John Barnard came forward and procured signs-
atures from most of the leading merchants of London to an
agreement, binding themselves to receive the notes of the
Bank of England in lieu of all debts and bills, and till
the evil was averted. In 1758 Sir John retired from public
life, and on that occasion received a vote of thanks from his
fellow-citizens for his long and various services. He lived
for six years in retirement, and died at Clapham on the
29th August, 1764, in the 80th year of his age: he was
buried at Mortlake.

The gratitude of his fellow-citizens for his unremitted
exertions in their service was not limited to the simple ex-
pression of their thanks, but was shown by their placing his
name on the line of the Bank, from the Bank of England.
On his death the inscription 'Humani Generis Decus' was placed
on the base of the statue. Sir John Barnard was charac-
terized through life by indefatigable integrity, by sound judg-
ment, and by energy.

BARNARD CASTLE, otherwise called CASTLE
BARNARD, a market-town in the parish of Gainford in
the county of Durham, 246 miles N.W. of London, and
23 miles S.W. of Durham, is situated on the southern
activity of an eminent family, who were connected at a stone
age and the northern bank of the river Tees. The
town derived its name and chief consequence, if not its
origin, from a castle which was erected on the summit of
a rock on the west side of the town by Bernard, Baliol,
son of John, earl of Kent, in the time of the Saxons. We hear
of no trace of the castle, except that there is a piece of
rock on the west side of the town, which is said to be the
site of the old castle of Balhol. The forests of Teesdale and
Marwood, and the rich lordships of Middleton and Gainford, with all their royal
franchises, liberties, and immunities, were granted by the
Conqueror to Guy Baliol. The whole district under con-
sideration appears to have been originally called Mar-
wood, which also seems to have been the name of a town
about half a mile from the castle, of which there are now no
other traces than an old building, said to have been the elen-
table at the coronations of Cnut and Edward the Con-
queror. Guy Baliol was John Baliol, king of Scotland, who was
born at Castle Barnard, and founded a hospital there which
survived the Dissolution, and still furnishes a scanty provi-
sion for three aged women. In his time the lordship passed
from the house of Baliol to the house of Deke, from whom the
county of Durham, as belonging to his patrimony; but the king
(Edward I.), to humble this proud prelate, ultimately took
the patrimony from him, and when it was restored to the see
of Durham it was without the important additions which it
had gained by the forfeitures of Balhol and Bruce. The king
gave the castle and its liberties to Beauchamp, Earl of War-
wick, from whose heirs it passed to the Nevilles, and ulti-
mately came into the hands of Richard III. by right of his
wife, whose brother and heir, and afterwards lord of
Warwick. Richard appears to have done much for the im-
provement of the place; the boar, his cognizance, still exists
in many parts of the town and castle; and in many cases
figures in relief of boars passant, taken from the castle, are
the arms of Warwick. It stands on a height, connected at different epochs, and
with its apertures, bastions, and buttresses, together with
a large circular tower, which stands on a cliff one hundred
feet perpendicular above the river, are in parts mantled with
ivy, and as contrasted with the brown rocks, fringed with
brushwood, on which they stand, and the river at the base,
form an object of great picturesque effect. Indeed, the en-
virons of the castle are altogether remarkably beautiful, the
beech wood and fields abounding with romantic landscapes. The
outer area of the castle and moat is now used as a pasture
for sheep, and the other parts inclosed by the walls have long
been converted into orchard grounds.

Leland, who visited it in the reign of Henry VIII., speaks
of the town of Barnard Castle as a neatly pretty town, having
a good market, and most neatly well attended at market, on which very well applies to it now. It extends about a mile
in length, and consists of several streets, the principal of
which is very wide, and for the most part lined with good
houses; but the best corn-markets in the north of England; but the market
cross and shambles are very inconveniently situated, being
in the middle of the way. The market cross itself is an
octagonal free-standing building, open at the sides for public
accommodation. The church, or rather chapel of ease, dedi-
cated to St. Mary, is in the form of a cross, with a detached
tower, which was originally surmounted by a lofty spire,
but that, having become ruinous, was removed about fifty
years since, and the tower itself was raised sixty feet higher
than it was before. This tower contains four bells, one of
which has an inscription around the rim in the Saxon cha-
acter, which would seem to denote its being one of the
oldest bells in the country. The inscription merely declares
that the dedication of the church was to St. Mary, and that
St. John the Baptist was the patron saint.

The living is a perpetual curancy, of which the vicar of Gains-
ford is patron. It is of the clerical value of 30l. 9s., but
the annual value is 130l., according to parliamentary re-
ports. The living is diminished by the presentation of the
standard and jury of the manor of Darlington. The inhabitants
are employed in a considerable extent in the manufacture
of Scotch camlets, and in the stocking and tanning business,
which last produces a leather highly esteemed in the manu-
factures, and exported to different parts of Europe. In
the market town there are markets on Wednesdays, and there are fairs on Easter Monday, Wednesday in
Whitsun week, St. James's day, and one on July 25th for
horses, cattle, and sheep. The chapel of Barnard Castle
contains 513 houses, and the population in 1831 was 4430,
of whom 2332 were females.

On account of the paramount authority of the bishop in
the patrimony of Durham, not only the county, but all the
towns, were exempted from the burden, as it was then con-
sidered, of sending members to parliament, until the reign
of King James I., when the inhabitants began to think
they had a right to representation. The question was first
considered in parliament in 1614, but, owing to the opposi-
tion of the bishop, nothing was decided until 1621, when,
upon the destruction of the chapel of Barnard Castle and
Castle Barnard, the town of Barnard Castle and Barnard Castle were allowed two members each. Four-
teen members for the whole county had been claimed in the
first instance.

(Sources: History and Antiquities of the County Palatine of
Durham; Hutchinson's History and Antiquities of the County
Palatine of Durham; Gough; Camden's Brit-
nania; Beauties of England and Wales, vol. v.)

BARNaul, BARNaulskoi ZAVOD, a considerable
mining town of Siberia, in the district of Busk and
circle of Tomsk, which are comprised in the government
of Tobolsk. It lies on the banks of the Barmaulsk, an inco-
niderable river, not far from its influx into the Ob, and con-
tains about 8600 inhabitants (exclusive of about 1700 German
objects who have built the church, and opened a school in the town), nearly 1200 houses, and three Greek
churches. The most remarkable edifices in Barnaul, be-
sides the churches, are the chancery offices for the mines,
the commandant's residence, the storehouses, and the
public market, all built of wood. It is the seat of admi-
nistration for the whole of the mines of the Kolyan line,
including the silver mines of the Ob, and t.e various
mines of the Altai and Ural ranges.

The town is the seat of the post office of Barnaul itself, large quantities of that metal are smelted here
from the Zmejevskaja-Gora, or Schlangenberg mines, and
also all silver ores which contain any particles of gold. Its
yearly produce, on which between 5000 to 6000 men are
employed, is estimated at 22 pounds (about 10,560 ounces)
of gold, and 1000 pounds (about 480,000 ounces) of silver;
and it is stated by a native writer, that, during fifteen years,
the whole of this produce has amounted to 150,000 ounces

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of gold, extracted from 5,000,000,000 of silver, and 4,320,000,000 of refined silver, principally from the Schlangenberg mines. These metals, when purified, are despatched to St. Petersburgh during the winter. There are lime pits, a bell foundry, two salt works, and a tallow near the town; and among its works are 30 smelting furnaces, and a mint for copper coin. Most number of vegetables, even melons and artichokes, thrive in its vicinity, but the water is of indifferent quality. The number of works in this quarter, and this quarter is situated in 53° 20' N. lat. and 53° 26' E. long. Not far from it are the Altai mountains.

BARNES, JOSHUA, celebrated for his attempts in poetry, history, and criticism, was born in London in the year 1670; he was educated at Westminster School, and afterwards went to Emmanuel College, Cambridge. Although we do not agree with Dr. Monk in thinking that 'as a poet, historian, orator, and critic he was equally unfortunate (Lyle of Bentley, p. 40), it must be remembered, however, that for his amusing self-complacency, and the gossip arising from his peculiarities, the man and his works would have been long ago forgotten, except so far as he is connected with the biography of his great contemporary the Master of Trinity. As a poet he is ridiculous; and nothing can be conceived more ludicrous than the certainty with which, in his notes on Euripides, he appeals to his own absurd paraphrase of Esther as the standard of poetry and Greek style. His History of Edward the Third would be considered even now an important work of literature, if its apparent diligence and erudition were the only necessary qualifications of an historian: as a compilation it is little to object to in itself but its prolixity, and, we doubt not, it has been the unnoticed book of reference of many writers who have used it for amusement. Dr. Salter's edition (1747) of the number of Bentley's Diss. de Phal., p. 441, says Barnes's scholarship, 'Barnes had some knowledge in the Greek language; about as much, Dr. B. used to say, as an Athenian slave. In all other branches of knowledge he was indeed: Felicita memoriae, as the burlesque epistle upon him says, expecimus judicium.' We would rather compare him for knowledge of Greek to a Byzantine grammar; and it is a curious proof of his skill in imitating the style of the scholars, that his interpolation of the above ment to the Bacchus of Euripides has imposed upon two of the acutest of the continental philologers. (See Welcker, Tril., p. 327, etc.; Boeckh de Trag. Gr. Princip., p. 300.)

The incidents of his life are uninteresting: he was elected Rettine Professor of Greek at Cambridge the year 1655; in 1700 he married Mrs. Mason of Hemingford, a widow—good with a good jury, a large part of which he devoted to the publication of his Homer in 1710; in 1711 he wrote to Dr. (Bancroft, episcopate of the History Collection (Br. M. 2523), praying for preferment, but in vain. He died in 1712. His widow erected a monument to his memory at Hemingford. The following is a complete list of his numerous writings:


BARNET, commonly called CHIPPING BARNET, to distinguish it from East Barnet, is a market town of Hertfordshire, about 6 miles N.W. of London, situated on a great north road, eleven miles N.W. of London, upon an elevated site, on which account it is sometimes called High Barnet. The parish of the same name, in which it stands, contains about 1140 acres. In the time of the Saxons this site was thick and waste, and was not granted to the church of St. Alban by the name of the woods of Southwark, Borough, and Hulsehege. In subsequent grants confirming the former, the place is frequented by such a small hill, in the blacken language, 'a small hill; and in still later times it received the adjunct of Chipping, in consequence of the market which the abbots of St. Alban obtained leave of Henry II. to establish in the town, and which in time became a large cattle-market. Barnet is a small town, but in consequence of being a great thoroughfare, has a busy appearance. It has no buildings besides the church and grammar-school that require particular notice. The church, which is dedicated to John the Baptist, was built about the year 1100, at the expense of John Must, abbot of St. Alban's, as a chapel of ease to East Barnet. It consists of a chancel, nave, and two aisles, separated by clustered columns and pointed arches. The nave is 120 feet long by 25 feet wide, and contains the old bench pews and stalls. The church is dedicated to St. John the Baptist, and the tower. The church is surrounded by a curtain, appointed by the rector of East Barnet, who is himself nominated by the Crown, and the living is valued in the king's books at 25l. 6s. 8d. The free school was founded by Queen Eleanor of Castile, and is kept up by the patronage of the corporation with apartments for a master and usher, and endowed with a house worth 7l. 1s. 4d.: other benefactors have since increased this endowment. The school is managed by a body-four, ha, a, and ha, 000, to read the Bible and cast accounts. The town possesses two endowed almshouses; one for six poor and aged widows or spinners, and the other for the same number of poor men. The town is governed by a mayor, chosen annually, and from among the inhabitants are 2389 in 1851, of whom 1163 were females. This statement exhibits an increase of 611 persons since the former census, which is attributed to the increase of the population resulting from the opening of the new road. A spring of mineral water, of a mild purgative quality, was discovered upon Barnet Common in 165: it was for a time in much repute, but we cannot learn that it is now in use at present. On Gladmore Heath, in this neighborhood, there was once upon a time, March 14, 1741, the descent of an avalanche, and the inhabitants were 2389 in 1851, of whom 1163 were females. This statement exhibits an increase of 611 persons since the former census, which is attributed to the increase of the population resulting from the opening of the new road. A spring of mineral water, of a mild purgative quality, was discovered upon Barnet Common in 1652: it was for a time in much repute, but we cannot learn that it is now in use at present. On Gladmore Heath, in this neighborhood, there was once upon a time, March 14, 1741, the descent of an avalanche,

Lyons's 'Account of John Barneveld, Van Olden, was born at Amsterdam, in the province of Utrecht, in 1647. In his Apology, in which he enters somewhat minutely into the controversy between himself and the father and mother a side, 'from an ancient and noble stock,' who for more than a century were leading members of the provincial assemblies, and distinguished themselves in the cause of national independence. In 1644 he went to Utrecht to prosecute the cause of an advocate. After spending five years in the study of the law, and, after the fashion of the times, of divinity, between Harenburg, Leiden, and the Hague, he settled as an advocate in the latter place in 1659. His talents being the first order, he soon became the favourite of the universities, and advocates of the Court, and in 1676 was chosen a member of the抛弃ary of Rotterdam: which honour, due all to the making for the difference between the political conditions of the two cities, may be considered a matter of the highest importance, to those of his country's counsel and patrons in England. In 1675 Barneveld married a lady on whom he did not often take his eyes, though he himself declared that he was at the time much more influenced by the consideration of the magnificence of his own family. In 1680 the rest of his family, after various other parts of his conduct, seems to have been marked by the accusation of his enemies, that his character was too much influenced by the fear of change.

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While the struggle between the Netherlands and Philip II. was at its height, Barneveldt, who was early distinguished for his boldness and decision, and who had already shown the capabilities of his mind, was appointed as a civil servant to prevent him from occasionally endangering the duties of a subject. In 1673 he assisted as a volunteer at the memorable siege of Haarlem, and was only prevented by illness from forming part in the still more memorable siege of Leyden in 1675. But it is in his civil capacity that we should seek for the services which Barneveldt rendered his country during its eventful struggle.

In 1835 the prospects of the United Provinces were most discouraging. Their public and private resources were very limited, and the alliance of the Netherlands with Spain, or, to whose arms, calm sagacity, and unconquerable zeal for his country's welfare they were mainly indebted for their honourable position in the eyes of Europe, William fell by the hand of an assassin on the 10th of July in the preceding year. The Spanish arms, directed by the Prince of Parma, were almost everywhere triumphant, and it appeared hopeless to continue the struggle without the aid of foreign powers. Under these circumstances the States-General opened negotiations with France and England, from whom they had received promises of assistance. From the commencement of the struggle the inhabitants of the Netherlands were anxious for a monarchical form of government, and it became a matter of deliberation whether this change should be made. On this subject a division of opinion was produced, with the number of the royal family of France or of the Queen of England. It is curious to remark that the objection to Elizabeth was founded on the barbarous policy pursued by the English government in Ireland. (See Grotius, Amst., lib. iv.) Affairs were at the lowest ebb; and, as he urged upon the States, his own fortune was unequal to maintain the rank and dignity of his station in a manner calculated to command the respect of foreigners. He was not, however, long at the bottom of affairs. The French and English, having strengthened their appeal to his patriotism by increasing the salary of the office, Barneveldt continued to conduct the affairs of the state till the year before his death, with signal ability and integrity. (See M. Barbault, Prospop., p. 124; and Count Camondo Carleton, the English Ambassador at the Hague, who knows that he hath great power and abilities; and it must be confessed, that never hath man done more faithful and powerful service to his country than he.) From 1598 this public conduct becomes essentially part of the history of the United Provinces.

In 1603 the States-General despatched an embassy to England, nominally to congratulate James I. on his accession, but in reality to present his concluding a treaty of peace with Spain. The embassy consisted of Sir Robert Catesby, splendid, and was composed of Prince Frederick of Nassau, brother of Maurice the Stadtholder, Barneveldt the Grand Pensionary, and Vleck and Frederode, two of the first dignitaries of the republic. The conduct of the embassy was trusted to the judgment and discretion of Barneveldt. No ordinary address and perseverance were required to overcome the feelings which James entertained towards men whom he did not hesitate to pronounce rebels. It jarred so much with James's high notion of the royal authority to countenance men in his private capacity against their king, that he could not be prevailed upon to give the ambassadors a formal audience. Fortunately for Barneveldt in this embarrassing, the celebrated Duke of Sully, then M. de Richelieu, arrived at Paris just in time to dissuade the French and Sully had many conferences, the particulars of which are detailed with much minuteness by Sully. (See Mémoires de Sully, tome iii.) As it was the interest of France that the Netherlands should not be made a prey to the Spanish arms, and no apprehension of danger in persuading the French ambassador to use his influence at the English court in favour of the revolted provinces. The result of these negotiations was, that James attached his signature to a treaty drawn up by Sully, which the States-General had the advantage of a secret advance of money, to be followed up by actual hostilities against the Spanish king if he should resent this clandestine assistance. Barneveldt failed, however, to persuade either monarch to send an army to support the rebellion; and they were neither, as it appeared, till then in the third year of its memorable siege. (See Grotius's celebrated Prospoporia of Ostend in his Latin poems.) The important share which Barneveldt had in these negotiations, and the high estimation in which he was held, is evident, and it behoves us to record his name among the notables of the Netherlands. (See also fine illustrations in the London Magazine, and Memoirs of the French wars, 1828.)
held by Henry IV, and his ambassador, are attested by the large space which the latter devotes to their conferences and the minuteness with which he details them to his master. Sully never mentions the name of the other members of the embassy. The same remark may be made by anticipation as to the despatches of Dudley Carleton, who was sent to the Hague from 1616 to 1628. Barneveldt’s name occurs in every page as holding in his hands all the authority of the state, and every rumour touching his health and conduct is minutely reported.

The truce of twelve years was not signed until April. The United Provinces signed on the 9th of April, 1609, which was effected almost entirely through the influence and firmness of Barneveldt, exposed him to unworthy suspicions. He had to contend with the national hatred of Spain, and the rivalry of the Protestant princes, who regarded every overture of peace as a wily artifice of popery; and what was added still more to the difficulties of his task, he was vehemently opposed by the army and the military authorities, guided by Prince Maurice, the Stadtholder. Every artifice of delay and misrepresentation was resorted to with a view to holding up the advocates of the truce with Spain as traitors to the cause of national independence. Though Barneveldt had been the means of extorting the promise of the independence of the United Provinces as a preliminary condition to all negotiation, he was denounced as one who had received bribes from that court for the purpose of establishing the Spanish yoke and the Catholic faith; and so strong was the interest in this respect, and so far was the ascendency of Prince Maurice, that Barneveldt, at one period of the negotiation, resigned his office of Grand Pensionary in order to avert the calamities of a civil war. At the solicitation, however, of the States-General, he resumed his office, and, strongly supported by the ambassadors of England and the United Provinces, he came all difficulties after a struggle of two years, and the truce of twelve years was concluded.

The great services which William of Orange, the father of Mary, did for the United Provinces, tended to the cause of Prince Maurice, the States-General to invest him with almost supreme authority. His son, a bold and ambitious prince, of great military capacity, bred up in camps and in habits of command, succeeded to the same authority, but it soon became manifest that, unless the ascendancy of the laws were firmly established, the great struggle in which the nation had been so long engaged against Spain would end in a mere change of masters. Hence the nation was divided into two great opposing parties—the war and the peace party; the latter, the humblest of the civil duty were a bolder and more military—between Maurice the Stadtholder and Commander-in-Chief, and Barneveldt the Grand Pensionary. Unfortunately for the issue of this struggle, fanaticism, and the same name of religion, became an element of the conflict. All the wars and intestine broils, indeed, of the sixteenth century were more or less mixed with sectarian controversy. Though the progress of the Reformation led to measures favourable to civil liberty, religious liberty was the growth of institutions and habits of thought which found no favour in the eyes of the leaders of the succession from the Church of Rome, many of whom, both in theory and practice, were far from tolerant. This was particularly the case in those countries (the Netherlands, for example) in which the change in religion was effected in opposition to the papacy by magistrates. Barneveldt had early braved the prejudices of the Calvinistic clergy and the multitude, by his efforts to procure liberty of conscience throughout the provinces, and in his defence of Arminius he contended against that divine and his antagonist Gomar. The mild and tolerant doctrines of Arminius respecting church government recommended them to Barneveldt, though his own views with reference to predestination, grace, and free will, the great points of the Arminian debate, were much more akin to those of the Gomarists. Prince Maurice, on the other hand, lent all his aid to the latter, knowing that they were the more numerous and powerful party, embracing the Stadholders, the States-General, though there is every reason to suppose that he was in belief an Arminian.

The main strength of the party which Barneveldt headed lay in the court of Holland, and in these patrician families from whom the cabinet was selected. Their weakness, and the cause of their failure, lay in the system of self-election of those magistrates. The election of the corporate officers was originally in the hands of the burgomasters, but during the confusion of the great struggle, it was found convenient to invest the magistrates with the power of filling up vacancies in their own number. The irregularity was unfortunately retained when the vacancies were filled by the first elections of the first and second states; and the result was, that, no longer connected with the people, they were, like other aristocratical families received no fresh impulses of popular strength, and, as a consequence, had no hold on the attachment of the community at large.

The steps by which Maurice of Nassau, after a struggle of ten years, triumphed over Barneveldt and the States, and usurped the sovereign power. The army was ardently devoted to him, and the ignorance of the populace, and the fierce infirmities of the States-General, ministered to his ambitions. Every artifice of fraud and misrepresentation was employed to hold up the patriot party to popular odium, as the enemies of the religion and independence of their country. As the truce of twelve years was mainly owing to the firmness and sagacity of Barneveldt, he was deposed by Maurice’s party as one who had sold himself and country to Spain and popery; and as he had openly espoused the tolerant doctrines of Arminius, he was denounced as the agent of a party which had been an obstacle in his designs against the Protestant worship. Still, however, the weight of his character, his eloquence, and the undeniable benefits which followed from his administration, enabled him to keep his ground against all the attacks and calumnies of his enemies. His own influence was increased by his having obtained from James I. the restoration of the Cautionary Towns, which had been given up to Elizabeth as securities for the money which she had lent the States by the treaty of 1615. The debt due at the time by the States to the queen of England amounted to 8,000,000 florins; but Barneveldt, by adroitly taking advantage of James’s necessities and vacuums, had the debt cancelled by a prompt payment of about one-third of the amount. This was not a single act which accrued to the States from the transaction. James was then in a poor state, and his Spanish alliance; and it was to be apprehended, that, if a marriage between Prince Charles and the Infanta took place, these towns would be handed over to Spain.

It was about this time that Prince Maurice endeavoured to win the consent of Barneveldt to his assuming the sovereignty of the republic. For this purpose he sent his own mother, the celebrated Louisa de Coigny, to sound him as to his feelings; but that princess, instead of endorsing Barneveldt’s views in this respect, entailed upon him all his arguments of the danger of such a measure, that he laboured to divert Maurice from his purpose. Then baffled and exposed, he sought to remove Barneveldt, the great obstacle to his ambition. Unfortunately, at the critical moment, the wounded vanity of James I. arrayed itself on the side of Maurice against the Grand Pensionary.

James, who prided himself on authorcraft as much as ingraft, had set up a new college, and published a work in which he denounced the heretics, as he described them, of Vermeer, a celebrated divine, who had succeeded to the chief and opinions of Arminius at Leyden. The States, commanded to Barmenet, gave a civil but evasive answer to a letter from James, with which he accompanied a copy of his book of which he points out burning as the proper punishment for such a damnable heretic. (See the substance of James’s Letter from the Mercury Francois in Baye, art. Vermeer). James’s literary vanity and royal arrogance took fire at the disrespectful subject; and Maurice, the admiral, advised that Barneveldt was the individual who had guided the States on the occasion, he lent his rival Maurice every assistance in his power towards effecting his destruction. The difficulty which may be raised as to the cause of James’s interference, it is certain that he did all in his power to ruin Barneveldt.

The question upon which the great struggle between Barneveldt and the Stadtholder finally turned was the control of the States-General. Maurice had no objection to the appointment of six to the States-General that the States-General and the Commissaries should be removed. Barneveldt was well aware of the object which those who demanded for this assembly had in view. He opposed it with all his might. He, as a project fraught with danger to internal peace and the independence of the provinces, technical powers have succeeded in defeating it altogether; but in the
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attire of Carleton, the English ambassador. The point at issue between Barneveldt and his opponent was simply whether the union of the Church and State should be voluntary or compulsory. The relations between the State and the Church were to be fixed in the States General, and not in the Church itself. The English ambassador deemed it his duty to protest against the illegal arrest of Barneveldt, at last came to a disgraceful compromise, and thus sacrificed one of the greatest and best of its citizens.

In 1759, the States General, which at first persisted against the illegal arrest of Barneveldt, at last came to a disgraceful compromise, and thus sacrificed one of the greatest and best of its citizens.

In this engagement Barneveldt formed a militia, composed of the citizens, in Arnhem, Leyden, and Utrecht; this body of men, when marching against the French, disarmed them, took possession of the Arminian towns, deposed the Arminian magistrates, and openly assumed absolute authority. The States-General, overawed by his boldness, and jealous of the powerful influence which he had acquired, ordered all his proceedings, and at his bidding took decisive steps towards summoning a national synod, November 13, 1618.

(See Note, Synod. O.) Previous to this, Barneveldt and his friends in Utrecht, while he was abroad, had been arrested (February 21, 1618) by the States-General, meeting in Utrecht. This bold step induced the State of Holland, which had at first opposed the Synod, to consent, under the influence of fear and the violent measures of Maurice.

"What of other prisoners," writes Carleton, the English ambassador, who openly avowed that his master approved of Maurice’s proceedings. "Barneveldt is sure to lose his head." Such seems also to have been Barneveldt’s conviction, all his efforts being directed to save his family from the consequences of this punishment. He expressed no regret at his own fate, except so far as it might implicate his friends; and was particularly concerned for Grotius, then in the prime of life, and, like Barneveldt, a clever conversationalist’s weapon. The trial of the prisoners commenced on the 19th of November, 1618. It was in vain that Barneveldt protested against the illegality of the whole proceedings, and that he triumphantly refuted all the charges urged against him: he was found guilty, sentenced to death, and taken to the place of execution. In the afternoon of the 21st of November, 1618, in the presence of the Synod and of the magistrates of Utrecht, Barneveldt was beheaded on a scaffold erected in the court-yard of the Hague, meeting his fate with that calm courage which attended him throughout life. As he bowed his head to the axe, he exclaimed, "O God! what is mine?" — (Cassar, V. 384.). A letter which he wrote the night before his execution to his wife is still preserved, and is a touching monument of his firmness and affection.

Of the charges preferred against Barneveldt (see Burigny, p. 141), many were frivolous, and most of them vague. The charge of treason was, on the face of it, as ill-grounded as the rest; but party spirit at that time ran so high, that it is perhaps difficult to extract the truth with perfect accuracy from the mass of evidence produced. Though the opinions of the Calvinists and the Estelsdijckans were in opposition to those of Barneveldt’s character and the justice of his execution, given in Brand’s History, iii. p. 570.) There is no doubt that the assembled States of Utrecht, meeting in the court of the state of Holland; he was also tried by a court of commissioners named by his enemies, and one whose jurisdiction over him he fairly demanded. Grotius, in his own case, protested as strongly as Barneveldt against the competency of the court. The more intimate connection between these
out for the protection of trade in the Delaware. While thus employed, Barney was attacked by two ships and a brig belonging to the British navy, and by a combination of strategism and bravery, succeeded in capturing and securing one of the ships. For this gallant action he received the thanks of the legation, and the title of a first lieutenant; and his prize being fitted out and commissioned in the American navy, he received the command.

Commodore Barney was afterwards sent with despatches to Dr. Franklin at Paris, and returned to America with a British flag, bearing despatches which announced the signing of preliminary articles of peace between England and America.

At this time the commodore was only twenty-five years of age, and the public having no further occasion for his services, made no commercial speculations connected with the sea, but was unsuccessful. In the course of these pursuits he visited France in 1794, and in the following year received a commission as captain in the French navy. He afterwards obtained the rank of chef-de-députation, and served as commander of the French squadron in the West Indies. On his return to France he resigned his commission, and received the grant of a pension for life, which, however, he would never touch. Returning home, he again engaged, with not better success than before, in commercial speculations, to which he retired to the cultivation of a farm.

When the war between England and America broke out in 1812, Barney immediately fitted out a privateer, in which he made some valuable prizes, and was shortly afterwards advanced to the command of a frigate, and employed for the protection of Chesapeake Bay. This duty he performed successfully against a British force numerically superior to his own. While engaged in this service, Commodore Barney, finding that a British expedition had landed on the New Jersey coast, volunteered to take the New Jersey, a fine frigate in charge of his lieutenant, and joined the land forces with 400 of his men. The hostile forces met at Bladensburg, but the conflict was carried on, as far as the Americans were concerned, by Barney only and his sailors. The New Jersey was captured and destroyed, and Barney himself was taken prisoner by General Ross. Barney retired to his farm, where he received the thanks of the State of Georgia and of the city of Washington, the vote being accompanied in the latter case by the gift of a sword. Except in the single instance of being afterwards sent on a mission to the United States, and in Europe, Commodore Barney's public life terminated on the field of Bladensburg. The wound he had received on that occasion never thoroughly healed. Afterwards, when on a journey in Kentucky, he experienced a sudden attack of typhus fever, and never recovered. On the 1st of December, 1818, he died at Pittsburg, in the sixtieth year of his age.

BARNESLEY, a market-town and township in the West Riding of the county of York, in the parish of Silloth, in the wapentake of Staincross. It is 172 miles N.W. of London, 39 miles S.W. of York, 9 miles S. of Wakefield, and 13 miles N. of Sheffield.

Several circumstances connected with the early history of the town have contributed to its pre-eminent position in the county of Yorkshire, and have given it the name of the "Jewel of the West Riding." The earliest known inhabitant of the town was the Saxon chief, Elfgar, who founded a monastery in the early years of the town. The monks, in many ways, its benefactors, and they obtained for it the benefit of a market, which contributed much to bring a population within the precincts of the town. In the 17th century the trade was revived, and W. of London, and 38 N.W. of Exeter. Rapidly increasing, Barney, a borough, in the county of North Devon, in the hundred of Braunton. It is situated on the western bank of the river Taw, a broad and fertile valley, bounded by a semi-circular range of hills, and is a market town. The town is very ancient, and was one of the boroughs of the king of Athlbean, who is said to have built a castle here, and to have erected the town into a borough. It is certain, that at the time of Domesday survey, there were forty burgages within the walls, and nine without, and the inhabitants were exempted from serving any
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pedition, or from paying any taxes except when Exeter and Totnes did so. In the petition of the town of Barnstaple, in 1685, to Edward IV, the townspeople declared that, among other privileges granted them by King Athelstan (which they had unfortunately lost), they had ever since that time enjoyed the right of sending two burgesses to parliament. After three inquests, it was finally declared that there was no proof of the supposed charter. (See Hallam's Middle Ages, iii. 46.) King John had previously confirmed to them the privileges of which they were actually possessed in the time of his great-grandfather, and the successor of King John was afterwards confirmed by Edward IV. In 1526, when there were remains of a castle, the origin of which was assigned by some to King Athelstan, and by others to Joel of Totnes, to whom the manor of Barnstaple was granted by the Conqueror. This Joel founded, either in the reign of the Conqueror or that of his successor, a priory for Cluniac monks, dedicated to St. Mary Magdalen, which was at first made dependent on the priory of St. Martin de Campsie at Paris; but afterwards (probably in the reign of Henry VI.) became independent, and continued until the Dissolution, when its gross revenue amounted to 123½. 13d., and its net income to 123½. 5s. 9d. The community appears to have consisted of thirteen members. Henry VIII. granted the site to William Loeil Howard and Margaret, his wife; and its revenues were under the control of the family of INCEDON, which at present holds it. The barony of Barnstaple itself has several times reverted to the crown since the original grant to Joel of Totnes. Queen Mary I. granted the property to Thomas Mawer, Esq., who sold it to the family of Sir Arthur Chevborough, the present proprietor. It does not appear when the market at Barnstaple was first granted. The town was first incorporated in the reign of Henry I., and has returned representatives to parliament ever since the reign of Edward I. The corporation consists of a mayor, two aldermen, two aldermen, twenty-two common-councillors, a recorder, high steward, and other officers. The petty sessions are held in this borough. The charter under which the town is at present incorporated was granted by Mary I., and confirmed by James I.

Barnstaple is a neat and generally well-built town, and may be regarded as the metropolis of North Devon. A large number of respectable families have been induced by the pleasantness of its situation to establish permanent homes in the parish, and a great deal of the surrounding country consists of provisions to settle there. Barnstaple has of late years greatly increased, and is still increasing, in importance. Many new houses have been built, and are now building, particularly in the southern part of the town. Newports, and Barnstaple contained 12,461 souls in 1811, and 15,191 in 1831. Barnstaple contributed, as a sea-port, three ships against the Spanish Armada, but it has long since declined from its former maritime importance. The river spreads to considerable breadth, but it is shallow, and accumulations of mud and silt, at its southern extremity, render it for small vessels. A fine quay stretches along the river side to a great length, and is terminated at one end by a handsome pier, over the centre of which is placed a statue of Queen Anne. The river is crossed by an ancient stone bridge, of sixteen arches, which has recently been repaired in a very ingenious manner by iron work on each side, supporting foot-paths and a railway. The town has long had a theatre, and a new one has just been completed. It has also frequent assemblies, which are numerous and fashionably attended. The chief ecclesiastical buildings are the church of St. Peter and St. Paul, a large and glorious old building, with a handsome spire. It contained several chapels before the Reformation. The living is a discharged vicarage, rated in the king's books at 13s. 4d. 9d. A new chapel is mentioned by Leland; two of them no longer exist; one of the two remaining is used as a warehouse, and the other as a grammar school.

In consequence of the increasing disadvantages of the harbour, much of the trade of Barnstaple has been transferred to the new town of Braunton. It suffers from the disadvantage of being the port for an extensive and improving inland district, and carries on a steady trade. The roads in this part of the country have been greatly improved within these few years; and in consequence of the establishment of several canal to the coast, the commerce to various ports of the country have been greatly facilitated. Three lace factories have of late years been established in the town; to which circumstance the population returns of 1831 chiefly attribute the increase of (1761 persons) which had taken place since 1821. There are also establishments for the manufacture of baizes, shawls, linens, hose, pottery, and fishing-nets, which afford employment to a considerable number of persons. The boundaries of the limits of which are co-extensive with the parish, contained, in 1831, 1801 inhabited and 38 uninhabited houses, of which 607 were 100 houses. The population at the same period was 6840 persons, of whom 3901 were females. 63 of the males above twenty years of age were engaged in agriculture, and 321 in manufactures, handicraft, or retail trade. A grammar-school was kept in very early times by one of the priests of the chantry of St. Nicholas, in the parish church of Barnstaple. The grammar-school was founded by Richard Ferris, who died in 1649: he endowed it with a rent-charge of 10s. per annum. Since that time it has only received an addition of 4l. per annum, being the interest of 100l. given by the Rev. John Wright in 1760. The master is appointed by the corporation, and may hold the privilege of nominating two boys on the foundation. Bishop Jewell and the poet Gay were educated at this school. About the year 1710 a charity-school for teaching English was founded, in which forty-five boys and two girls are clothed and educated. Its income arises from the rent of lands purchased, with sundry benefactions, and producing 110l. per annum, the interest of 470l. stock, and annual collections to the amount of 20l. or 30l. There is also a national school in the town. The mechanics' school was opened in 1813, and supported by donations and subscriptions. There are almshouses on three different foundations, which together provide for twenty-eight poor persons. An institution, called 'The North Devon Infranary,' was opened in 1813. There are also a Mechanics' Institute and a Horticultural Society. The market, which is held on Friday, is the great market of North Devon; it has generally an abundant and cheap supply of provisions, and a large quantity of corn is sold at the weekly market, which is on Tuesday. This market is held on Friday before April 21st, 19th of September, and the second Friday in December: the last for cattle.

(Lysons' Magna Britannia; Camden's Britannia; Risa- don's Chorographical Survey of Devon; Boundary Re- port, 1831; Commissions for Enquiry in 1814 and 1821.)

BARNSTAPLE, a county in the state of Massachusetts, in the United States of America. It occupies the peninsula which terminates at Cape Cod, and forms a large and beautiful bay called Barnstaple Bay, which is sometimes also called Cape Cod Bay, and sometimes Massachusetts Bay. This county is joined to Plymouth county on the west by an isthmus which has Buzzard's Bay on the south and Barn- staple Bay on the north. Measured from this isthmus, Barnstaple Bay, which is sometimes also called Cape Cod Bay, and sometimes Massachusetts Bay, is about five miles long, about two miles wide, and about two miles deep. It lies in a direction nearly east and west for half of its length, when it turns abruptly to the north, and at about it takes a slight north-north-east curve. Its shape has been compared to that of the human arm bent inward both at the elbow and wrist.

Barnstaple county contains thirty towns; these, with their respective populations, were, in 1830, as under:

<table>
<thead>
<tr>
<th>Town</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnstaple</td>
<td>2972</td>
</tr>
<tr>
<td>Brewster</td>
<td>3134</td>
</tr>
<tr>
<td>Chatham</td>
<td>1301</td>
</tr>
<tr>
<td>Dennis</td>
<td>2317</td>
</tr>
<tr>
<td>Eastham</td>
<td>2662</td>
</tr>
<tr>
<td>Falmouth</td>
<td>3166</td>
</tr>
<tr>
<td>Harwich</td>
<td>2346</td>
</tr>
</tbody>
</table>

Together 32,542 inhabitants.

The peninsula contains several harbours both within Cape Cod Bay and on the Atlantic side. The town and harbour of Falmouth are near the south-west extremity in 41° 36' lat., and 71° 31' W. long., not opposite to the north-east part of Martha's Vineyard Island, which, with Nantucket Island and Barnstaple peninsula, form Nantucket Bay. Chatham and Harwich are on the west coast, and open to the Atlantic. The towns and harbours of Yarmouth and Harwich are between Yarmouth and Barnstaple. The eastern part of the harbour is about one mile wide and four miles long; at spring tides the water rises fourteen feet: a bar prevents the entrance of large ships.

The soil of the peninsula is nowhere productive, and...
in some parts is sandy and barren. The principal objects of cultivation are wheat, rye, maize, flax, and onions. (Thompson's *Alc. Geog.; Malham's *Naval Gazetteer."

BAROACH, a pargannah or district in the province of Gujarat, situated principally between 25° 32' and 26° 1' N. lat. It is bordered on the south by the Gulf of Cambay.

This district was conquered by the Mahrattas by the government of the East India Company in 1781, but in the following year was ceded to Madhijee Scindia, a Mahratta chief, possessing extensive dominions in the province of Malwa, in order to procure his concurrence in the treaty of Salbaiy. In December, 1803, it again became subject to the Company under the provisions of a treaty of peace concluded with Dowlat Rao Scindia, and it has since remained in the hands of the British.

Baroach is one of the best peopleed and best cultivated districts on the western coast of India: it contains 391 villages, and the jumma, or assessment, to the land revenue, amounts to 21,91,774 rupees (21,91,774). The jumma is so small, that the cultivators are not liable for any other tax or contribution to the state, and having now for more than thirty years enjoyed uninterrupted tranquillity from without—a state of things very different from that formerly experienced by them—the inhabitants are generally in a prosperous condition.

Cotton is one of the chief articles of production: in the best seasons the crop is computed to amount to 16,000,000 lbs. of clean cotton, the quality of which is considered good. Including the inhabitants of the pradhur town, the population of the district amounts to 160,000, about three-fourths of whom are Hindus and the remainder Mohammedans.

The city of Baroach, which is the capital of the district, is situated at 26° 1' N. lat. 72° 50' E., and is a spot of high ground on the banks of the Nerbudda river, 23 miles from its entrance into the Gulf of Cambay. The Nerbudda is called by Pliny the Nambudam. The city is of considerable extent, but a great part of it is now in ruins. It was a place of great trade in the time of the Empress Akbar, to whom it surrendered in 1572. The Nerbudda, in this part of its course, is two miles wide, but very shallow, so that only vessels of small burden can come up to the town. The river abounds with fish, among which are excellent carp.

The situation of Baroach corresponds exactly to that of Barygaza, or Barberea, which signifies the water of a ford. The ancient history of this place is given in Dr. Vincent's *Commentary on the Periplos of the Erythraean Sea*. At the epoch to which the Periplos belongs, the city of Barygaza was a very considerable emporium of commerce, receiving across the Balnaghtan mountains, from the city of Tagara (the modern Dowlatabad), gema, spices, silk stuffs, and other articles, to the immense amount of 300,000 annual contribution to Egypt, and thence to Rome. It imported, in return, Italian, Greek, and Arabian wines, gold and silver, and other metals, together with glass, 'girdles or sashes of curious work,' and silk. The only large export of the town of Baroach is thrown over the river Viaimstris, a short distance from the city of Baroda. The streams of the province are crossed either by ferry-boats, or on a light platform made by means of logs or on broad lances.

The assumption of sovereign power on the part of the Guicower family took place early in the eighteenth century. Previously to that time, Pillcawe Gwinewar had been compti oual, or head manager of the public concerns of a village, an office of considerable importance in many parts of India, and which is usually conferred by the cultivators resident in each little community upon that one of these bodies whom they consider best fitted by his talents for serving the common interest. The present Guicower, Bajjoo Rao, succeeded his father, Shree Ayee, in 1815.

A treaty of alliance was entered into by the East India Company's government with Pattar Singh Guicower in 1780, but little or no intercourse passed between the two governments until 1802, when Astor, the British agent, applied to Mr. Duncan, the governor of Bombay, for permission to put down the rebellion of Mulhar Rao, a member of the family, who was striving to obtain the sovereignty in Gujerat. In consequence of this application, a council of war was dissolved by the Guicower family. After several months the agents of the Guicowers and Mulhar Rao, entirely suppressed the rebellion. The treaty which at this time was concluded with the Guicower contained an undertaking, on the part of the Guicowers, not to receive any person from the state of tharashtra in which they were then held by his majesty, a clause which was in consequence ejected from Gujerat. Before this undertaking could be accomplished, it was necessary to gain over the assent of numerous creditors to the state who held the

In 1815 the population was found, by enumeration, to be

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hindus</td>
<td>10,436</td>
</tr>
<tr>
<td>Mohammedans</td>
<td>9,880</td>
</tr>
<tr>
<td>Parsees</td>
<td>2,977</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23,293</strong></td>
</tr>
</tbody>
</table>

The best experienced at some seasons of the year is oppressive and censive, and the city has not the reputation of being healthy, especially to Europeans, which latter circumstance may be owing to the confined manner in which they are laid out, and to the dirty condition in which they are constantly suffered to remain.

*Punjapole,* or hospital for animals, is maintained within the city, and considerable sums of money are subscribed by the Hindu inhabitants, who tax themselves on occasion of their marriages and other ceremonies, and besides, for some object, a duty upon various merchandise transactions. About 10,000 rupees are annually raised in this manner.

Baroach is distant 221 miles from Bombay; 305 miles from Calcutta; 640 miles from Hydrabad; 741 miles from Lucknow; 810 miles from Benares; 947 miles from Madras; 265 miles from Ogeen; and 287 miles from Poona, travelling distances.

(Reynell's *Memoir of a Map of Hindostan: M. I.; History of British India; Reports of Commission of House of Commons on the Affairs of India, Sess. 1812; Narrative of a Periplos of the Erythraean Sea, part ii., etc.); Allredon's *Periplous of the Periplus, in Hudson's Minor Geography,* and A. Robertson's *Historical Disquisitions concerning Antiquity India.*

BARODA, an important city and district on the province of Gujaret. The city is the capital and residence of the Maratha chief, known as the Guicower, a family which in time has come to be considered a kind of the Marata race. Baroda, which is situated in 22° 21' N. lat. and 72° 25' E., is, as mentioned above, a large city with a great deal of trade. In the reign of the present king, under his great work, the *Ayesar Abbey,* was written; and we are told by Sir John Malcolm, who visited Gujaret in 1810, that the city was at that time one of the richest cities in part of commerce, and much admired for its elegance.

The fortifications at Baroda are not strong: the walls are slightly built, and would afford but little protection against any attack on the part of European troops. Some of the streets of the town are spacious, and the remains of several handsome buildings are still to be seen, though, which have been erected since the occupation by the Marathas are of a very humble character. The population was estimated in 1818 at 100,000 persons, and at about which number it probably continues at present.

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security of the Arab commanders for loans advanced to the prince. The arrangements made to this end have since occasioned much embarrassment to the Company's government. In 1805 another treaty was executed between the Guicowar and the Company, which contracted that three balsams of India, and are not competent to the Company's admir-

ery, and a company of lascars, should be furnished, the expense of maintaining which was to be provided for by the Guicowar by assigments of territory to the Company yielding an annual revenue of 11,700,000 rupees. In 1817 the Guicowar was compelled to provide a subsidiary force, and was required to furnish troops to act in conjunction with the British forces then employed in the province of Malwa.

In the successor of the reigning Guicowar in 1829 new arrangements were made with him. The general management of affairs was taken from commissioners who had held it, and was placed in the hands of the chief, preserving, however, to the Company, certain rights of interference which were considered indispensable to discharge the obligations under which it had been brought by the above-mentioned treaties, and to prevent the sacrifice of all the advantages that had been realized through the past management of the British. The confidence thus placed in the Guicowar was not misplaced, for he discharged his duties so well that the Company had given its guarantee were increased rather than diminished through the grasping avarice of the chief, who thought more of augmenting his private hoard than of liquidating the debt he owed the Company. The public interest of the Company was in consequence thrown into so much confusion that the English government was induced, in 1828, to place under sequestration such portions of the Guicowar's territory as would yield a revenue adequate to discharge the obligations for which the Company had given its guarantee. Under this new situation our relations with the Guicowar state stood up to nearly the present period. Very recently the British resi-
dent has prevailed on Syajee to grant such terms to the bankers, his creditors, as have induced them to release the British company from the debts due to them, and the sequestrated districts have accordingly been restored to the Guicowar.

The district of Baroda is rich and well cultivated, and appears to be one of the most flourishing tracts of land in Hindustan.

The greater part of the population is composed of Bheels and Coolies. There are, besides, a few Mohammedans, Hindu merchants, and Rajpoots. The Bheels chiefly inhabit the wilder parts of the territory. The Coolies form more than one-half of the entire population. These two tribes are supposed to have been originally the same people, and to have been the aborigines of Gujarat. Their principal employment is agriculture. They live under the authority of the chief, and pay to the baron a certain tribute to the baron and other superiors, paying but little respect to the laws whenever they are not in agreement with their own habits and supposed interests. They are of very turbulent dispositions, and are placed in a province, in the pursuit of which they display a desperate spirit. They commonly wear a shirt of mail over their other dress, and do not consider themselves to be properly accoutered unless they have a sword, shield, and bow and arrows. Their horsemen carry each a long spear and a battle-axe.

(Letters from the Hon. Mountstuart Elphinstone, and from R. Jenkins, Esq., to T. H. Villiers, Esq.; from B. S. Jones, Esq., to the Right Hon. Charles Grant: Minute of Sir John Malcolm, November, 1830, as quoted in Appendix to the Report of the Committee of the House of Commons on the Affairs of India.)

BAROMETER, from two Greek words signifying the measurer of weight, is only applied to those instruments in which a column of air is weighed against a column of mer-

cury. The invention of the barometer is one of the most curious in the history of philosophy. No new discovery, not even those first substantiated by the telescope, ever shocked so deeply the concepts of that age as the measurement of air. In so imperiously demanded admission. It will therefore be worth while to state the circumstances attending it.

The phenomena of the common pump had been well known for more than a century at least before the commence-

ment of the Christian era. The mode of explanation was simply the well-known maxim, that 'nature abhors a vacuum.' Nor do we know [see VACUUM] of any experi-

mental attempt to discover why nature abhorred a vacuum, before the time of Galileo. The phrase itself, considered simply as a representation of a well-known fact, namely, 'that the laws of nature will not permit a vacuum to exist, may be as useful now as then. But considered as an ex-

planation, we need not refer to the antecedent nonsense. We might equally well explain how a stone falls faster than feet one inch in the first second of its descent, by saying that its nature has an antithesis to more, and a repugnance (if we wish to vary the phrase) to less.

But several generations of astronomers, space, &c., furnished no tests of the validity of a method of explanation, when compared with others which have direct numerical meaning. The common story is, that the pump-makers of the Duke of Buckingham found that water would not rise higher than thirty-two feet, or less, at least, when it was applied to Galileo for a solution of this problem, and he, having his mind preoccupied by the usual form of words, gave them a very simple answer, namely, that the power of nature to contend against a vacuum ceased when she had destroyed one of thirty-two feet high. [See GAILLLO.] That the mysterious indefinite nature should be in constant hostility to the equally mysterious indefinite vacuum, would not then appear ludicrous; but thirty-two feet must have seemed too large a number for the primitive mind to have nothing else to depend upon. The above story is told in several different ways (it has been said, for instance, that the answer of Galileo was ironical), but whichever may be the truth, it is clear that this led him to abandon the theory of nature's horror, though without sacrificing anything other. It has been thought that before his death he suspected, at least, the true explanation. His pupil Torricelli first imagined that the weight of the atmosphere itself, or, more properly, the pressure, under which the weight of a column of air is ascertained, would be necessary to counterpoise the weight of air would be reduced in the proportion in which mercury is heavier than water. For instance, that if mercury be fourteen times heavier than water, a bulk for bulk, the weight of a column of thirty-two feet, or about two feet four inches, would supply the effect and produce the force of the water. He accordingly filled a tube, more than three feet long, and open at one end only, with mercury; and then stopping the open end with the stopper, he placed the open end downwards. On removing the finger, the mercury in the tube sank until it stood in the tube at about twenty-eight inches higher than the mercury in the vessel. He thus constructed what is at this time considered the best apparatus for air-pressure.

Torricelli died shortly afterwards (1647), leaving his great discovery not quite complete; for though he had made it apparent that the weight of the water and the mercury was a counterpoise to something, most probably of a weight of air, the latter was not quite certain. The invention, how-

ever, was taken up by Pascal, Mercenne, and others in France, and by Boyle in England. The latter, by means of the air-pump, was enabled to subject air of different degrees of density to the test of the barometer. Pascal did the same thing; and, in addition, first suggested (in 1647), that if the mer-

cury were sustained by the weight of the air, it would necessarily fall in ascending a high mountain, by the diminu-
tion of the superincumbent column of air. He accordingly observed his effect at the top of Montferrier, near Mirepoix, in the Pyrenees, and at the summit and the base of the mountain of Puy de Dôme, in Auvergne, and the result was that the mercury, which at the base stood 263 inches (French), was only 334 inches at the summit. A few days afterwards, he was shown in the ascent of a church tower and of a private house. The fact was now completely established, that the weight of the air upon any horizontal base was equivalent, roughly speaking, to a weight of mercury of the same base, and that the pressure of any horizontal plane is inversely proportional to the height of the column of the liquid which supports it.

Soon after the first discovery, many different methods
were imagined for improving the construction of the instrument. The continual variations of the altitude of the mercury did not escape notice; and the idea of the weather-glass was almost contemporaneous with that of the barometer. It was observed that changes of the height of the mercury corresponded to changes of the weather, though experience was not yet sufficiently extensive to decide in what manner. The very gradual progress of these changes, and the frequent smallness of their amount, rendered it desirable to construct the instrument that the effect should be multiplied as much as possible. And since an alteration of level in the tube of the barometer also produces an alteration of level in the cistern with which it communicates, it soon became evident that no fixed scale of inches would serve to show the difference of levels (or, as it is called, the height of the barometer) merely by reading off the height of the mercury in the tube. We shall now give an account of the most remarkable among the various constructions which have been employed or suggested. Most of them are from De Luc, Recherches sur les Modifications de l'Atmosphère. In all the diagrams, a is the closed or vacuum end of the tube, and p the place where the mercurial or other column communicates directly with the atmosphere. The tube which are usually drawn, should all, properly speaking, be cylinders. Enough is introduced to show the principle of the construction, but not the method of mounting the instrument. Each article is headed by the name of the inventor.

Many of the following contrivances, though not at present in use, may suggest ideas of value for other purposes:

1. Torricelli.—This is the simple apparatus already described. The inverted tube, full of mercury, 32 or 34 inches in length, is placed in the cistern of mercury. The tube sinks until the column contained between the two layers counterbalances the pressure of the air. From a to c the air is at a vacuum, at least at the bottom of the cistern of mercury, which we shall presently mention.

2. and 3. The siphon barometer (No. 2) was adopted as more convenient than that of Torricelli. The pressure of the air at p is counterbalanced by a column of mercury in length s. But the indications of the barometer are not nearly so great as those of Torricelli's. As an inch of variation in the difference of levels makes the mercury in the closed tube descend half an inch, and that in the open tube ascend half an inch, or recede through altering s by one inch (a rising half an inch). In Torricelli's barometer, if the horizontal section of the cistern (the part occupied by the tube excluded) were twenty times that of the tube, then a diminution of an inch in s would be marked by a fall of 10 of an inch in the tube, and a rise of 10 of an inch in the cistern: for the mercury which is driven out of the tube causes a little addition to the cylinder of mercury in the cistern, of twenty times the base it occupied while in the tube, not therefore of only one-twentieth of its length. No. 3 is a siphon barometer, with a similar method of increasing the variation in the tube. The siphon terminates in a basin of greater diameter than the tube. If the horizontal section of the basin be twenty times that of the tube, we have again the case just explained.

4. Descartes.—Here we have the top of a barometer constructed, that a narrow tube shall open into a wider cistern, which opens downwards into a tube. Any light that say oil is first poured in, and afterwards mercury, the mercury is then made as in Torricelli's experiment. A quantity of oil, and the diameter of the cistern are so adjusted, that the extreme variations of the weight of the atmosphere shall allow some mercury to remain in the cistern. Let us say that the specific gravity of the oil is one tenth that of the mercury, or that a column of oil has the same weight as a column of mercury one-tenth of its length; and let us suppose a fall of an inch in the pensive mercurial barometer. Let us also suppose the horizontal section of the cylinder to be ten times that of the tube above it; while any descent of s is shown by ten times as great a descent of the point s in the upper tube, because a portion of the cylinder must be filled out of the tube. When Torricelli's barometer fails an inch, the mercury here will fall 1/10 an inch, and the oil 1/10 of an inch. But this 1/10 of an inch of oil leaves only 1/10 of an inch of mercury. And a fall of 1/10 of an inch of Torricelli's barometer would be marked by a fall of 1/10 of an inch in that of Descartes. Huygens used to construct this barometer (Descartes having died before he completed it), but found that the air contained in the upper fluid always escaped into the vacuum. He therefore suggested the next plan.

5. Huygens.—To the siphon barometer he added a cistern at the vacuum end of the tube, and a lady in which the mercury communicated with the air. The latter cistern communicates with a narrow tube say one tenth of the horizontal section of the cistern, and the barometer was completed with such a quantity of mercury as would always leave 1/10 of an inch in the higher cistern, and a room of half an inch in the lower. Neglecting the effect of the weight of the column of water, it appears that a rise of half an inch in the lower cistern would be accomplished by a rise of a quarter of an inch in the tube, on account of the proportion of the
horizontal sections. Hence the water multiplies the indications of Torricelli’s barometer five times. The objections to this construction are, that the portion of the tube abandoned by the sinking of the water remains wet, or a part of the water is left behind, so that it appears to have descended somewhat lower than it ought to do; and also that the evaporation of the water produces a similar effect. And we need hardly observe that, except for extreme exactness of observation, none of the parts of the instrument, upon which we have here pretended; so that, if this end be not answered, the whole peculiarities of the construction are useless. Dr. Hooke slightly varied this barometer, by adding another fluid above the first, and making the tube terminate in a third cylinder.

6. Hooke’s wheel barometer, a well-known plaything, for as to accuracy it deserves no better name. On the mercury in the syphon barometer a weight is placed, which is very nearly counterpoised over a pulley by another weight. The ascent of the mercury raises the weight, and the string which connects the weights makes the pulley revolve more or less. A hand attached to the pulley shows the quantity of revolution, and the plate is divided so as to show how much revolution of the pulley corresponds to a hundredth of an inch (usually) of rise or fall in the barometer. In the common instruments it is usual to mark fair, changeable, &c. at certain places; an innocent practice, because those who use the instrument are generally aware that it is not the weather that makes the bulb, but the change which is taking place for the time being. For observing the mere fact of a change, and roughly whether it is much or little, this instrument is sufficiently useful; but we should not, like the French, endeavor to philosophize to their parlours,” but for marking the exact quantity of the change, or the absolute height of the column, it is worth very little.

7. Sir Samuel Moreland.—By inclining the tube of the barometer, its indications were supposed to be rendered more sensible. The mercury standing at $s$ in the upright barometer (dotted) would stand at $s$ on the same level in the oblique or diagonal barometer, by a well-known law of hydrostatics. And since any difference of levels cuts off a longer space of time with the panda. The instrument was subject to the best corrections of change on the former must be more marked than on the latter. But the friction of the mercury is increased, and the place of the head of the column of mercury is difficult to be read by a vertical scale, because of its inclination.

8. The needle is made to move to end in a smaller horizontal tube of considerable length, the pressure of the air acting horizontally against the column of mercury. The vacuum is made in a cistern, as in No. 3. The air in the bulb forms a reservoir, the indications very great, in the manner already explained. There is no change in the lower level of the mercury, but other circumstances render this construction not more worthy of confidence than the preceding.

The diffusion of levels of $g$ and $s$, and of $p$ and $s$, will each be half of the column for the time being in the Torricellian barometer. For the pressure of the external air at $p$ is counterbalanced by the pressure of the two columns, that of the column beginning at $s$ being communicated to that beginning at $s'$ by the intermediate air $p$. By a repetition of the same principle, each column might be made one-thousandth, one-fourth, &c. of the Torricellian column. But the exactness required in the several parts is impossible to be attained.

11. Mercur. — This is a simple syphon barometer, so short in the tube, that the mercury does not descend until the tube is nearly full of water, or the Torricellian barometer. But the exactness required in the several parts is impossible to be attained.

12. Hooke.—This barometer was intended to be used at sea. It is not a Torricellian barometer, but a portion of air confined in the bulb by the liquid which mounts in the tube. Any increase of weight in the exterior air compresses the air in the bulb by pressing on the liquid. This is not at all to be depended upon, as the effect of change of temperatute makes it rather more of the thermometer than the barometer.

13. Pints.—This is a Torricellian barometer, with a contrivance for keeping the lower level always the same. The morn is closed at the top, excepting an orifice very little larger than is necessary to admit the tube. The mercury escaping through this orifice, and its cohesion, with the repulsion which it exerts towards glass, preventing any part separating from the rest, it forms a bulb round the tube, which depends on the cost of the tube, instead of rising, spreading itself out upon the glass, in the manner shown in the dotted section.

14. Guy Lussac.—This barometer is very convenient for service. It is a syphon barometer, in which the column of that species only is formed, and communicating with the external air through a hole $g$, pierced too small to allow mercury to pass through it.

15. Fortin.—This barometer is distinguished from the rest by a method of adjusting the lower level of the mercury exactly to the zero point of the scale before commencing the observation. It is a Torricellian barometer, in which the bottom of the cistern can be raised or lowered by a screw. An ivory needle points downwards, the point of which is on the same level as the lower end of the scale. The level of the cistern is raised or lowered by the screw until the point of the needle and its image in the mercury precisely coincide. The observation is then made.

In order to construct good barometers, such that two or more may always be placed, if possible) at the same height when in the same place, or may be correct indexes of the differences of height in different places, the following points must be attended to.

The mercury must be perfectly pure and good, free not only from other substances, but also from the small coating of air which adheres to all bodies in their natural state. The interior of the tube must also be freed from this coating of air, which, if allowed to enter with the mercury, would in time expand and fill the vacuum above the mercury, and perfect. All these ends are gained, in a great degree, by boiling the mercury in the tube previously to inverting it and allowing the vacuum to form. Duc Luc found that all his barometers gave different heights until he boiled the mercury; after which the greater part of the difference disappeared. A part of the mercury should first be boiled in the tube, and the rest added in a hot state; after which the boiling should be stopped. One of the best tests of a good vacuum is when, by shaking the tube, the mercury is free from all the air. It is a hard, well-defined, and instantaneous tap. The vacuum can never be quite perfect: for, generally speaking, a small quantity of air will remain; and besides this, mercury itself will rise in vapour into the vacuum. Duc Luc found, though not exactly, a degree as to cause any perceptible pressure, and [see Atmospheres] not more than it would rise in the air. The mercurial vapour is well established, as well by chemical tests, as by the effect upon human health of breathing an atmosphere to which mercury is added to or removed from it. If there be moisture in the supposed vacuum, the mercury will sink on applying the hand, or any other warm substance. In order to compare two barometers, which are in different places, the temperature of the mercury must be the same. As mercury expands with increase of temperature, a higher column of the fluid will be required to counterpoise a given weight of air. To observe the temperature of the mercury, a thermometer is attached to the best instruments,
the bulb of which is in the cistern. All observed heights should be reduced to that to which they would be at some given temperature, say the freezing point of water. And it must be remembered that the scale itself, on which the heights are measured, expands or contracts with the mercury. If the two expanded or contracted equally, there would be no occasion for any correction; but if the mercury expanded more than the scale, it is the difference of the expansions by which the observed height will be wrong. Mercury expands more than the material of any scale which is ever employed.

Let \( a \) be the observed temperature; \( x \) the fractional part of a bulk of mercury which must be added to it for every degree of increase of temperature; \( y \) the fractional part of its length by which the scale increases for each degree. Then if \( a \) be the observed height (temperature being above freezing), the height which would have been observed, had the mercury been at the freezing point, is

In the Centigrade thermometer,

\[
h = a + x - y
\]

In Fahrenheit's thermometer,

\[
h = a + 32(x - y)
\]

The rates of expansion are (Pouillet, *Physique*, vol. ii. p. 714 for the Centigrade thermometer,

For mercury . . . 0.001802
glass . . . 0.000754
cooper . . . 0.000175

In this country the scale is usually engraved on some mixed metal, and no very satisfactory value of the expansion can be given. It will be sufficiently accurate to suppose the expansion of mercury of every degree of Fahrenheit to be 0.001 of its bulk at the freezing point, and to neglect that of the scale altogether, which gives the following rule:

To reduce an observed altitude to that of mercury at the freezing point, subtract the ten-thousandth part of the observed altitude for every degree by which the mercury is above the freezing point (of water, of course). At a height of thirty inches, and a temperature of 50° (Fahr.), this correction would be 0.034 of an inch.

The barometer-tube itself need not be attended to. The consequence of it is, that more mercury is drawn out of the cistern to form the requisite column; but the height of the column is unaltered.

( Remember that the cubical expansion, not the linear, must be used for the mercury in the formula.)

2. The height observed requires another correction for the capillary repulsion, by which it stands somewhat lower than it otherwise would do. Without entering further into this point, we shall give some tables from different sources mentioned; and we have reduced to French millimeters in English inches, within those limits which will be useful in barometrical observations. The convex form of the top of the column of mercury is owing to this action; and, in the following tables, the correction is to be applied to the height of the column of the country.

Depression due to capillary Action.

1. Daily (Useful Tables and Formular, p. 194)

<table>
<thead>
<tr>
<th>Hundredth of Inch.</th>
<th>Depression in decimals of an inch</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inch.</td>
<td>Young.</td>
<td>Laplace.</td>
</tr>
<tr>
<td>5</td>
<td>0.0540</td>
<td>0.0964</td>
</tr>
<tr>
<td>10</td>
<td>0.1404</td>
<td>0.1144</td>
</tr>
<tr>
<td>15</td>
<td>0.0865</td>
<td>0.0889</td>
</tr>
<tr>
<td>20</td>
<td>0.0583</td>
<td>0.0589</td>
</tr>
<tr>
<td>25</td>
<td>0.0409</td>
<td>0.0404</td>
</tr>
<tr>
<td>30</td>
<td>0.0393</td>
<td>0.0396</td>
</tr>
<tr>
<td>35</td>
<td>0.0312</td>
<td>0.0316</td>
</tr>
<tr>
<td>40</td>
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<tr>
<td>60</td>
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<td>0.0004</td>
</tr>
<tr>
<td>65</td>
<td>0.0002</td>
<td>0.0003</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>(Millimeters and Degrees of Millimeters.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter.</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>21</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

To reduce Millimeters to Inches and Feet and Tenth of a Foot.

Daily (work and page above cited, abridged). 1 millimeter is 0.0394 inches.

<table>
<thead>
<tr>
<th>Millimeters.</th>
<th>Feet.</th>
<th>Tenth of a Foot.</th>
</tr>
</thead>
<tbody>
<tr>
<td>710</td>
<td>27.9333</td>
<td></td>
</tr>
<tr>
<td>715</td>
<td>28.1301</td>
<td></td>
</tr>
<tr>
<td>720</td>
<td>28.3270</td>
<td></td>
</tr>
<tr>
<td>725</td>
<td>28.5238</td>
<td></td>
</tr>
<tr>
<td>730</td>
<td>28.7207</td>
<td></td>
</tr>
<tr>
<td>735</td>
<td>28.9176</td>
<td></td>
</tr>
<tr>
<td>740</td>
<td>29.1145</td>
<td></td>
</tr>
<tr>
<td>745</td>
<td>29.3114</td>
<td></td>
</tr>
<tr>
<td>750</td>
<td>29.5083</td>
<td></td>
</tr>
</tbody>
</table>

Example: What is 758.2 millimeters in English inches?

755.3 millimeters are 29.7289 inches.

755/83 millimeters are 29.8757 inches.

We must observe, that the barometer, No. 6, and also in the modifications it is proposed by Guy Lassen. No. 14, no correction for capillarity is necessary: for the depressive force is equal on both sides. In all other barometers the capillary action of the cistern is unnoticeable. With regard to the magnitude of its effect, the tube need be attended to. Perhaps the best way of setting the exact amount of capillary depression would be by a very large number of observations upon two good barometers of different-sized tubes standing in the same place but we are not aware that this has been attempted. The tube must be exactly cylindrical, or the capillary correction will not be the same in all its parts.

3. The barometer must hang quite vertically, for any deviation from the vertical converts the instrument, proc. into the diagonal barometer, No. 7, and makes the depression on the scale too small.

4. The scale is usually divided into tenths of inches, when a vernier, by which the height may be measured within the two-hundredth of an inch. Many observers prefer to go nearer; but considering the uncertainty (of we speak of thousandths of inches) of the corrections between temperatures, of the zero point of the scale, the best way of setting the amount of capillary depression would be by a very large number of observations upon two good barometers of different-sized tubes standing in the same place.

5. The exact determination of the level of the mercury in the cistern is in many barometers impossible. It is best to have some method of adjustment, either as described by Fortin's barometer, No. 15, or by placing a stake on the surface of the mercury with a needle sharpened vertically from a point of which needle is adjusted by raising or lowering the bottom of the cistern.

If a barometer be made, which is not a syphon barometer with uniform tube, No. 2, or with means of adjusting the lower level of the mercury, it should certainly be the simplest form of Torricelli's instrument, namely, a perfectly conical tube unmeditated in a perfectly straight line, the larger the cistern the less the error arising from variation of the lower level, but if this be sensible, and if the barometer be good in all other respects, then if the barometer may be supposed to be placed by the side of one which is perfectly adjusted (Fortin 2, for example), and observations be made in the usual way.

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difference between any two heights observed with the correct instrument, will always bear the same proportion to the difference between the heights measured at the same times with the single instrument. This is a simple proposition which can be readily proved by geometry. Thus if we have 28° and 30° 6 inches on different days on the scale of the false barometer, in one this respect only, and 28° 8 and 30° 7 on that of the true barometer at the same times, then the proportion of 30° 6 to 28° 8 is as 17 to 18, and the proportion of 30° 7 to 28° 8 as 17 to 19, always will be found to exist between the same difference of similar double sets of observations be repeated. At least, if this be not found to be the case, it is a proof that one or other of the instruments has some other defect. Should the above proportion be found, the correction may be derived, which will be better than nothing, as follows:—let A be the reading of the false barometer in any other case, and A' that of the true barometer; then A - 28° 9 bears to A' - 28° 9 the proportion of 17 to 18, from which A' can be found. We have taken a case which could hardly ever occur, to make the data more distinct. This correction may be made upon the scale itself by the maker, and requires a little alteration both of the zero point and of the length it called an inch.

The great value of the barometer as an instrument of exact observation, lies in the facility with which it can be used, and the comparative ease with which the mean of a large number of observations can be obtained. As an instrument for general use it has few, if any, peers. All instruments of reliance can be placed on it; perhaps we should rather say, that this, with every other instrument, will not give accuracy to the utmost limit to which readings can be attempted to be carried. For if we could determine the latitudes of the meridian and of the barometric, to the thousandth of an inch, the mean of many observations could be relied on to the tenthousandth, and observers would try to read single observations to the tenthousandth also; and exactly the same might be said even of the best transit instrument.

We should observe, if possible, the observer of the barometer, who think their instruments are not sufficiently exact to make it worth while to persevere in recording results. Those who had a remark of truth well known to all observers, and demonstrated by mathematics, that the true instrument, if not differing more than the mean of a large number of observations as in single observations, provided only the instrument be such that any single result is as likely to be too small as too great: and thus a bad instrument, if used properly, may do more good than a splendid one in those of an idler.

The following rules may be useful to those with moderate instruments—with almost anything but Hooke's playing, No. 1. If there be no thermometer in the mercury, always observe an external thermometer, and correct by it in the manner hereinbefore shown; or, still better, place a thermometer with the bulb in a small cup of mercury, and keep it always on the side of the barometer.

2. Observe as much as possible at stated hours of the day, particularly at noon, if convenient.

3. Get a mathematical instrument-maker to determine the diameter of the tube, and apply the correction for capillarity and for temperature immediately after the observation is made.

4. Record the observations both of barometer and thermometer always in the same way, stating the general aspect of the heavens and the wind at the time.

5. At least, unsettling the vernier between the two. Take the mean of the results if they differ, and with no coaxing of the instrument to make the second like the first.

6. For the use of the barometer in astronomy see Refraction; as an index of the weather see Meteorology; for the diurnal variation, see Atmospheres; for the phenomena of luminous barometers, see Light, Barometrical; for the use of the barometer in measuring heights, see Heights, Mesometrical, &c.

We subjoin the most common rules by which to use the barometer as a weather-glass. Most observers must be well aware that no one of these rules is always true. There is not always rain after a fall of the barometer, but only most frequently.

The first set of rules in the following list was given by Dr. Halley, the second by Dr. Harris, author of the Lexicon Technicum (one of the earliest Encyclopedias, 1716), who had them from John Patrick, then a well-known maker of barometers.

**Halley's Rules.**—Phil. Trans. No. 167:—

1. In calm weather, when the air is inclined to rain, the mercury is commonly low.

2. It is generally high in good, serene, settled, fair weather.

3. It sinks lowest of all in very great winds, though they are accompanied with rain.

**Cicerone's Rules.**—

4. First, if the greatest height of the mercury is found when an Easterly or north-eastly wind blows, if it be not too strong. (This must be understood of England only.)

5. In calm, frosty weather, the mercury is generally high.

After great squalls, when the mercury has been low, it generally rises very fast.

7. In latitude 45°, and about 10° on each side (being the seat of the variable winds), is the greatest variation of the height of the mercury; the rise and fall of it gradually decreasing towards the equator and poles, so as within the tropics, and near the polar circles, to stand at the same height in all weathers.

**Patrick's Rule.**—Harris, Lex. Tech. art. 'Barometer':—

1. The motion of the mercury does not exceed three inches in its rising or falling in a barometer.

2. Its least alterations are to be minded in order to the right finding the weather by it.

3. The rising of the mercury presages in general fair weather, and its falling, foul, as rain, snow, high winds, and storms.

4. In very hot weather the falling of the mercury foreboreth thunder.

5. In winter, the rising forebodes frost; and in frosty weather, if the mercury falls three or four divisions, there will certainly follow a thaw; but in a continuous frost, if the mercury rises, it will certainly snow.

6. When foul weather follows soon after the falling of the mercury, expect but little of it; and judge the same when the weather prevails long after the fall of the mercury has risen.

7. In foul weather, when the mercury rises much and high, and so continues for two or three days before the foul weather is over, then expect a continuance of fair weather to follow.

8. In fair weather, when the mercury falls much and low, and thus continues for two or three days before the rain comes, then expect a great deal of wet, and probably high winds.

9. The unsettled motion of the mercury denotes uncertain and changeable weather.

**B'AROMETZ, a singular vegetable production, of which, under the name of Scythian lamb, many fabulous stories are told. It was said, among other things, to be part animal, part vegetarian, and that its flavour was so strong as to devour all plants in its vicinity. It is, in reality, nothing but the prostrate hairy stem of a fern called Aspidium Barometz, which, from its prominent position and shaggy appearance, looks something like a crouching animal, just as the hairy, tawny end of the Trichomes centurion looks like a hare's foot, whence its English name of Hare's Foot Fern. Darwin has some fanciful verses about the barometz, in his Botanic Garden, canto i. l. 579.

**BARON, BARONY.** Sir Henry Spelman (Glossearum, 1626, in voce Baro) regards the word baro as a corruption of the Latin eir: but it is a distinct Latin word, used by Cicero, for instance, and the supposition of corruption is therefore unnecessary. The Spanish word versos, and the Portuguese barão, are slightly varied forms. The radical parts of eir and baro are probably the same, b and v being convertible letters, as we observe in the forms of various words. The word barones (also written berones) first occurs, as far as we know, in the book entitled De Bella Alexandrina (cap. 33), where barones are mentioned among the guards of Cassius Longinus in Spain; and the word may possibly be of native Spanish or Gallic origin. The Roman writers, Cicero and Persius, use the word baro in a derisive sense; but this may not have been the primary signification of the word, which might simply mean man.

But the word had acquired a restricted sense before its introduction into England, and probably it would not be correct to find any use of it in English before it denoted the whole male population, but rather some particular class, and that an eminent class.

Of these by far the most important is the class of persons who held lands of a superior by military and other honour-
able services, and who were bound to attendance in the courts of that superior to do homage, and to assist in the administration of justice. This person, therefore, designated of these persons was the Barons. A few instances selected from many will be sufficient to prove this point. Spelman quotes from the Book of Ranulph a writ of King Henry I., in which he speaks of the barons of the honours of England. It was under the heading of the Exchequer, which has been shown by its late editor to belong to the thirty-first year of King Henry I., there is mention of the barons of Bithune, meaning the great tenants of the lord of that honour, now called the earls of Bolton. But these barons are described as 'Desperto suo et omnibus baronibus suis et hominibus Franciae et Angliae,' meaning the persons who held lands of him. This court itself in which these tenants had to perform their services is called to this day the Court Baron, more correctly the Court of the Barons, the Curia Baronum.

What these barons were to the ears, and other eminent persons whose lands they held, that the earls and those eminent persons were to the king: that is, as the earls and bishops, and other great land-owners, to use a modern expression, had beneath them a number of persons holding portions of their lands for certain services to be rendered in the main, so the lands which those earls and great people possessed were held by them of the king, to whom they had in return certain services to perform of precisely the same kind with those which they exacted from those whom they possessed, and those tenants in turn were tenants of the king. But, inasmuch as these persons were, both in property and in dignity, superior to the persons who were but barons to them, the term became almost exclusively, in common language, applied to them; and when we read of the barons in the earl's, as of the Norman kings of England, we are to understand the persons who held lands immediately of the king, and had certain services to perform in return.

Few things are of more importance to those who would understand, more clearly and institutions of England, than to obtain a clear idea of what is meant by the word baron, as it appears in the writers on the affairs of the first centuries and a half after the Conquest. They were the tenants in chief of the crown. But to make this more intelligible, we may observe, after the Conquest, there was an actual or a fictitious assumption of absolute property in the whole territory of England by the king. The few exceptions in peculiar circumstances need not here be noticed. The objects of cultivation, granges, and the great extent of the soil within a few years after the death of Harold and his own establishment on the throne. The persons to whom he made these grants were, 1. The great ecclesiastics, the prelates, and the members of the monastic institutions, who were established in the kingdom, and to whom he gave land under a different species of tenure, what had been settled upon them by Saxon pietie; 2. A few Saxons, or native Englishmen, who, in a few rare instances, were allowed to possess lands under the new Norman master; 3. Foreigners, chiefly Normans, persons who had accompanied the king in his expedition and assisted him in obtaining the throne: these were by far the most numerous class of the Conqueror's beneficiaries. Before the fourteenth or fifteenth year of his reign the distribution of the lands of England had been carried nearly to the full extent to which it was designed to carry it: for the king meant to retain in his own hands considerable tracts of land, either to form chases or parks for field-sports, or yield to him a certain annual revenue. Moreover, he needed a further possession of his own house, or to be a reserve-fund, out of which hereafter to reward services which might be rendered to him. These lands formed the demesne of the crown, and are what are now mean land under the head of a manor. When this was done, a survey was taken of the whole first of the demesne lands of the king; and next of the lands which had been granted out to the ecclesiastical corporations, or to the private persons who had received portions of land by charter of the king. At the same time, the persons to whom the making of this survey was entrusted, were instructed to inquire into the privileges of cities and boroughs, a subject with which we have not at present any concern. The result of this survey was entered of record in the book which has since obtained the name of Domesday Book, the most august as well as the most antient record of the nation, and for the early date, the extent, variety, and details of the information which it contains, was much esteemed, if not by any record of any other nation. We see there who were the persons to whom the king had granted land and at the same time asked lands of each of these persons. It presents us with a view, from which we know that in the last twenty years after the Conquest the barons formed the barons of England, and of the lands which they held; the progenitors of the persons who, in subsequent times, were the active and stirring agents in the government from King John onwards. The asserted rights or claims which had the effect of modifying the kingly authority of England within narrower limits than those which circumscribed the royal power in many of the other states of Europe.

The inquisitions have been prepared to Domesday Book present us with the names of about 450 persons who held lands immediately of the king. Some of them were holding small tenures, and merged at an early period on greater or, through forfeitures or other circumstances, were reserved by the crown. On the other hand, Domesday Book does not present us with a complete account of the whole tenures or chief: because — 1. The four northern counties are for some reason not at present understood, omitted as the survey was not extended to them. The data of the survey, by the grants of the Conqueror or his sons of portions of the reserved demesne. The provincial rebellions, and the unsettled state in which the public affairs of England were in the first century after the Conquest, or during the reign of Henry I., is such as makes it not possible to fix upon any particular period, and no what was precisely the number of tenancies in each hold — private persons; but the number, before they were brought up when they had to be divided among co-homines, must have been taken, perhaps, on a rude computation, at about 1,000 this the ecclesiastical persons who held lands in chief not included.

When we speak of the king having given or granted lands to the persons who held them, we are not to understand it as an absolute gift for which no condition, or restriction or services, were imposed. It was not the case; and to bring with him to the royal court a certain quota of revenue, was taken, perhaps, in a rude computation, at about 1,000 in the case of the king himself, the king's household, the administration of justice, and in the transactions of other business which was done in the court of the king.

We see in this the rude beginnings of the modern parliaments, assemblies in which the barons are so important a constituent. But before we enter on that part of the subject, it is proper to observe, that among the great tenants of the crown there was much diversity both of rank and property. We shall pass over the bishop and other ecclesiastics, only observing, that when it is said that the barons imposed certain services on the king, or on other tenants to their sees, the meaning of the expression is, that they did there as other lay homines or barons of the king, as being among the persons who held lands of the crown to the services above mentioned; which is correct, as far as persons to whom the services mentioned above were imposed are concerned; but we consider them as a court from the time of land-owners.

When this was done, a survey was taken of the whole first of the demesne lands of the king; and next of the lands which had been granted out to the ecclesiastical corporations, or to the private persons who had received portions of land by charter of the king. At the same time, the persons to whom the making of this survey was entrusted, were instructed to inquire into the privileges of cities and boroughs, a subject with which we have not at present any concern. The result of this survey was entered of record in the book which has since obtained the name of Domesday Book, the
have descended to their posterity. These are the contents of Domestick Book, where, by the Latin verse comes, they have represented the earl of the Saxen times; and so these persons were raised above the other tenants in dignity, as were they for the most part, as is testified by the names of the lands held by them. Among those to whom names no mark of distinction is annexed, there was also great diversity in respect of the extent of territory granted to them. Some were tenants for exceeding the extent of entire societies, while others had only the names of manors or temples, or, in the language introduced as the Conquest, but a single manor, or two adjacent manors, granted to them.

All these persons, the ears included, were the barons, or Earls, the kings, or dukes, and such others as were large or small, they were all equally bound to render their service in his court when the king called upon them. The diversity of the extent of the tenants affords a plausible discriminatory circumstance between two classes of persons who appear in early documents—the greater and the lesser barons; but a better explanation of this distinction may be given. In the larger tenancies, the persons who held them granted out portions to be held of them by other parties upon the same terms on which they held of the king, except in the case of which there were many tenants who held of the king, as when the king called upon them, so they required their tenants to furnish men equipped for military service proportionate to the extent of the lands which they held, when the king called upon them, as the other tenants of lesser kinds for the king, so they appointed certain services of the same kind to be performed by their tenants to themselves. As they had to do homage from time to time to the king, and to attend in his court for the administration of the kingdom and for matters of common interest, so they required the presence of their tenants to acknowledge their subjection and to assist in the administration of that portion of public justice which the sovereign power allowed the great tenants to administer. The ears, the rents of which in so many parts of the country, were the seats of these great tenants, where they held their courts, received the homage, and administered justice, and were to the surrounding homagers what Westminster was to the court in chief, but a selection from that body, and that there were among those who came by the king's summons, and not by the election and deputation of the people, who did not hold tenancies in chief at all. To account for this, it has been generally received opinion, that the increase of the number of the tenants in chief (for when a fee fell among co-heirs it increased the number of such tenants) rendered it inconvenient to admit the whole, and especially those whose tenancies were sometimes only the fraction of the fraction of the fee originally granted, and the barons strong as they were, they, through the sense of mutual convenience, agreed to dispense with the attendance of some of the smaller tenants. Others have referred the change to the latter years of the reign of King Henry III.; when the king, striving to strengthen the barons, established a principle of selection, summoning only those among the barons whom he found most devoted to his interest. It is matter of just surprise, that points of such importance as these in the constitutional history of the country should be left to conjecture; and especially, as from time to time claims are presented to parliament by persons who assert a right to sit there as barons by tenure: that is, persons who hold lands immediately of the king, and whose ancestors, it is alleged, sat in parliament in virtue of such tenure. The rule of Lords, which sat during several sessions of parliament to collect from chronicle, record, and journal every thing which could be found touching the dignity of a peer of the realm, made a very voluminous and very important report in 1819. This has been followed by reports on the same subject by other committees. They all confess that great obscurity rests upon the original constitution of parliament, and suppose the probability that there may still be found amongst the unexhausted records of the Exchequer, which may clear away at least a portion of the obscurity which rests upon it. [See Lords, House of, and Parliament.]

We are now arrived at a time when the word baron acquired a sense still more restricted than that which has hitherto belonged to it. Later than the reign of Edward II. we seldom find the word borne used in the charters to designate the whole of that formidable body who were next
in dignity to the king himself, who formed his army and his legislative assembly, and who forced the monarch to yield points of liberty either to themselves as a class, or to the court of parliament, which derived their power from the consent of the people. The barons, who had not any dignity, strictly so called, annexed to the service they had to render in parliament. The baron became the lowest denomination in the assembly of peers, possessing the same rights of discussing and deciding on all important matters, but remaining destitute of those honorary titles and distinctions the possession of which entitled others to step before him. The term also ceased to be applied to those persons who, possessing a tenancy in chief, were yet not allowed by the king to attend at the parliament; and the right or duty of attendance, from the time of King Edward I., has been founded, not, as antiently, upon the tenure, but on the writ which the king issued commanding their attendance.

Out of this has arisen the expression barons by writ. The king issued his writ to certain persons to attend in parliament, and the production of that writ constituted their right to sit and vote there. Copies of these writs were taken, and are entered on what is called the calendar roll at the table of the House of Lords. The first of these was the charter of rights of the reign of King Henry III., in the forty-ninth of his reign, when the king was a prisoner in the hands of Simon de Montfort, who did what he pleased in the king's name. There are many such writs, and the copies sent to them, of the times of Edward I., and all subsequent kings, down to the present time. They are addressed to the archbishops and bishops, the prior of Saint John of Jerusalem, many abbots and priors, the earls and peers of the higher dignities as they were introduced into the barony, and the numerous persons by their names only; as William de Vescy, Henry de Cobham, Ralph Fitzwilliam, William de Zouch, and the like; portions of the baronage whom the king chose to call to his aid. But this was different when a person who was a baron by tenure received the king's writ to repair to the parliament, the receipt of the writ, and obedience to it, created in him a dignity as a lord of parliament which adhered to him during his life, and was transmitted to his heir. Upon this question the received opinion undoubtedly has been, that a heritable dignity was created; that once a baron, by sitting under authority of the king's writ, always a baron; and that the barony, once acquired, as long as the body of the person to whom the king's writ had issued, and under whose received opinion, there have been many adjudications of claims to dignities, and yet the Lords' Committee on this subject express very strong doubts respecting these and condemn the writs sent to them, and who took their seat accordingly, to whose heirs similar writs never went forth, though there was no bar from monage, fatuity, or attainer. On the other hand, there is the strong fact, that we do find by the writ of summons, that they were addressed to the several members of many of the great families of England, as they rose in successive generations to the heads of their houses; that, when it happened that a female heir occurred, her issue was not unfrequently set in the place in parliament which her ancestors had occupied; and that when the new mode arose in the time of Richard II., of creating barons by patent, in which a right was acknowledged in the posterity of the person so created, the ancient barons who had not by virtue of the king's writ and whose ancestors did not apply for any ratification of their dignity by patent, which they would have done had they not conceived that it was a heritable dignity, as secure as that granted by the king's unbroken; and that the new mode of patent, which was technically called proof of sitting, entitles the person who is heir of the body of a person so summoned to take his seat in parliament in the place which his ancestor occupied; it would seem, from the report of the Lords' Committee, that in cases in which one person only of a family has been summoned at some remote period, and none of his known posterity were his heirs, this was no creation of the dignity of a baron, or a peer of this kind, which, if it had occurred at an earlier time by any person, however clearly he might show himself to be the heir of the body of the person so summoned. But that, in cases in which the writ and the setting out were proved respecting several persons in succession on the same line, as in Master Ross, Pembroke, and many other families, there is an heritable dignity created, incapable of defeasance, and that this dignity may be claimed by any person who at this day can show himself to be the heir of the body of the person to whom the original writ was granted. The idea is probably derived from the expression of the descent of the corporeal hereditaments in the lineal times is followed. That is, if a person the second of a dignity of baron, and leave a brother and an only child. In this case, the brother, and not the child, is created a baron, though the dignity has been transmitted from person to person who is ancestor to them both. This fact shows how close a connexion there is between the dignity and the lands, the descent of both being regulated by the same principle. The connexion of this principle so as, through a portion of the baronage there has been an admission of new families into the possession without the possession of the crown; for the heiress of one of these baronages was married in marriage at her pleasure; and though it is not held that the husband of the heiress could acquire a tenancy by courtesy principle (though doubts are entertained on this point), yet, the issue of the husband can be doubtless, whoever he may be, take his place in parliament. It is further contended that, as the oldest baron in a family should have been a male. Practically, the effect of this upon the composition of the House of Peers has been very small indeed. The case of co-heiresses demands a distinct notice, because it causes the short explanation of a phrase which has been used so frequently to denote a certain thing. The question is, whether the lands might be divided, but a dignity is by its very nature indivisible. The if the representative of one of the antient baronies of parto, but, leaving four daughters and no son, has lands may be divided in equal proportions among the four co-heiresses, according to the usual principles of the feudal system. But the dignity could not be divided; and as the possession of that system was against any distinction among co-heiresses, (reserving the occurrence in the course of persons dying leaving no son but several daughters to the means of preventing the too great accumulation of lands in the same person, and of breaking up from time to time the great tenancies,) it made no provision that other co-heiresses, or co-seated in parliament, should not come into the possession of the eldest, or any daughter in preference to her sisters. It therefore fell into abeyance. [See Abeyance.

It was not extinguished or destroyed, but it lay as a sort of nullity, unoccupied by any who might descend to the eldest, or any daughter in preference to her sisters. It therefore fell into abeyance. [See Abeyance.

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Again, it is a part of the royal prerogative to determine an abeyance; that is, the king may select one of the daughters, and give to her the place, state, and title which she lacked to her father; and then the barony will descend in the several heirs in succession of her body, as co-heres, there having been no state of abeyance. But the does not intercede with the rights of the other co-heiresses, and whose posterity remain in possession of the dignity which they stood before the king determined the absence in favour of a particular branch. In this way the barony of Clifford, which has several times fallen into abeyance, has been lately determined by the king to a co-heiress. The case of the baronage of Longford was decided in a great measure to the expense of the prerogative of the crown that we owe the existence of the baronages of barons who take their seats at the head of the bench, and the other sittings from the fourteenth and the tenth centuries.

The principle of the feudal law, which was inoperative on the claims of females, was brought into practice, after the great families which sprang from Hugh Capet, and a few other great families of the Continent, here had the
address to escape from the operation of the principle by availing themselves of what is called the Salic Law; and to this is owing that they still hold the rank in which we now see them, a thousand years after they first became illustrious. This must have been early perceived in England, and it was probably this consideration which led to the introduction of a class of barons, the descent of whose dignity should not be regulated by the principle of the feudal descent of hereditaments, but should be united inseparably with the man and demesne of the same name, or with the grandees. This innovation is believed to have first taken place in the reign of King Richard II., who in his eleventh year created John Beauchamp of Holt a baron, not merely by the ordinary usages of parliament, but by a patent, in which it was declared that he held the fee of Barony, the dignity of a baron, and that the same state, style, and dignity should descend to the male heirs of his body. Thus and at this time the class of barons by patent arose. The precedent thus set was, with very few exceptions, followed in the subsequent reigns; and by far the great majority of persons who now occupy the barons' bench in parliament are the male representatives of persons on whom the dignity has been conferred, accompanied by a patent, which directs that the same rank and honor should be given to the descendants of the same name as the original grandees, at the time being of the original grantee; and that should it ever happen that they are exhausted, the dignity becomes extinct. It is unnecessary to enter into any examination of the privileges of the barons, which in no respect differ from those given to the nobility in the parts of the House of Peers. [See PAIRS OF THE REALM.]

The principal writers upon the subject of this article are, John Selden, in his work entitled Titles of Honour, first published in 1614; Henry Spelman, in his entitled Archæologia, in Jacobum Glosarii, folio, 1636; Sir William Dugdale, in his Baronage of England, 3 volumes folio, 1675 and 1676; and in his Perfect Copy of all Summonses of the Nobility to the Great Courts of England, 2 volumes quarto, 1676, 49th of Henry III., until these present times, folio 1685; Proceedings, Proceedings, and Arguments on Claims and Controversies about Barons by Writ, and other Honours, by Arthur Collins, Esq., folio, 1734; A Treatise on the Laws of the Crown, in the Reign of King Henry V., by William Cruise, 2nd edit. 1823; Report on the Proceedings on the Claim to the Baronies of Lisle, in the House of Lords, by Sir N. H. Nicolaus, 1839. But the most complete information on this subject is contained in the works of the late Sir William Dugdale, pointed to search the Journals of the House, and Rolls of Parliament, and other Records and Documents, for all matters touching the Dignity of a Peer of the Realm.

The term barony is now used only in its sense of a dignity inherent in a person; but the ancient law-writers speak of persons holding lands by barony, which means by the service of attending the king in his courts as barons. The research of the Lords Committees has not enquired into this point, respecting them—that they between what is called a tenure by barony and a tenure by military and other services incident to a tenancy in chief. The Hitons in the north, who held by barony, have been frequently called the Barons of Hilton, though they had never, as far as is known, summons to parliament, or enjoyed any of the privileges which belong to a peer of the realm. Burford in Shropshire is also called a barony, and its former lords, the Cornavella, who were an illegitimate branch of the house of England, were called, in instruments of authority, burford baron, but had no summons from parliament or privileges of peerage. Barony is also sometimes, but rarely, used in England for the lands which form the tenancy of a baron, and especially when the baron has an independent barony taken at the time of the place, and is not summoned merely by his christian and surname. This seems, however, to be done rather in common parlance than as if it were one of the established local designations of the country. The head of a barony (caput baronen) was a considerable personage in the barony, and held a well-defined term. It designates the castle or chief house of the baron, the place in which his courts were held, where the services of his tenants were rendered, and where, in fact, he resided. The castles of England were heads of baronies, and they were not to be put in dower, and that if it happened that the lands were to be partitioned among co-heiresses, the head of the barony was not to be dismembered, but to pass entire to some one of the sisters. Barony is used in Ireland for a subdivision of the counties: they reckon 252 of the districts called baronies. Barony here is equivalent to what is meant by hundred or wapentake in England.

It remains to notice three peculiar uses of the word baron:

1. The chief men of London, York, and some other places in which the citizens were peculiar franchises, are called in early charters not unfrequently by the 'barons' of the place. This may arise either from the circumstance of the persons only being intended who were the chief men of the place; or that they were, in fact, the heads, homage, house, service, and service to the king, as it is known the citizens of London were and still are.

2. The Barons of the Cinque Ports are so called, probably for the same reason that the citizens of London and other privileged places are so called. The Cinque Ports, which were Hastings, Dover, Hythe, Romney, and Sandwich (to which afterwards Rye and Winchelsea were added), being ports opposite to France, were regarded by the early English as places of commercial importance, and put under a peculiar government, and endowed with peculiar privileges. The freemen of these ports were barons of the king, and they had the service imposed upon them of bearing the canopy over the head of the king on the day of his coronation. Hence the title of baron, and put them as persons falling within the limits of the king's barons. Those sent of themselves to parliament, though sitting in the lower house, might be expected to retain the appellation.

3. The Barons of the Exchequer. The four judges in that court are so called, and one of them the Chief Baron. The court was instituted immediately after the Conquest, and it is probable that the judges were so denominated from the beginning. Sir William Dugdale, in his Baronage of England, gives the baronage of the exchequer, namely, the Pipe Roll of 31 Henry I. It may here mean no more than the men, that is, the chief men of the Exchequer. For their functions and duties see EXCHEQUER.

BARONAGE. This term is used, not so much to describe the collective body of the barons in the restricted sense which now belongs to the word as signifying a component part of the hereditary nobility of England, but the whole of that nobility taken collectively, without regard to the distinction of dukes, marquesses, earls, viscounts, and barons, all of whom form what is now sometimes called the baronage.

In this sense the term is used in the title of one of the most important works in the whole range of English historical literature, for the sake of giving a short notice of which, we have introduced an article under this word. We allude to The Baronage of England, by Sir William Dugdale, who was the Norroy King at Arms, and one of the last survivors of those eminent antiquaries, scholars who, in the seventeenth century, raised so high the reputation of England for that particular species of learning. Sir William Dugdale was the author of many other works, but his history of the baronage of England is the one to which reference is more frequently made, and there is this peculiarity belonging to his labours, that the Barony is quoted by all subsequent writers as a book of the highest authority; and it has, in fact, proved a great reservoir of information concerning the families and baronial families, and the barons, who, in the seventeenth century, have formed the baronage of England, from which all later writers have drawn freely.

The first volume was published in 1675; the second and third, which form together a volume not so large as the first, in the year 1676. The work professes to contain an account of all the families who had been at any period barons by tenure, barons by writ of summons, or barons by patent, together with all other families who had enjoyed titles of higher dignity, beginning with the year 1066, and continuing to the year 1676. The work professes to contain an account of all the families who had been at any period barons by tenure, barons by writ of summons, or barons by patent, together with all other families who had enjoyed titles of higher dignity, beginning with the year 1066, and continuing to the year 1676. All that is intended by infinite labour, but Dugdale was an indefatigable man. Nothing like it had before appeared. Accounts of the higher orders of the English nobility had been given before this time in the works of Brooke, and Vinson, but these accounts are respectively meagre, scarcely, in any instance, going beyond the statement of genealogical particulars, or the most prominent facts in the lives of the persons who had held those dignities.
Bar

nities. But Sir William Dugdale has collected from the chronicles, from the chartularies of religious houses, with which he became acquainted while preparing his great work on the history of the monasteries, from the rolls of parliament, in his time only to be consulted in manuscript, and from the public records, which he could consult only in the public repositories, or in the extracts made from them by his fellow-labourers in historical research, and finally from the wills in the various ecclesiastical offices through the particulars of the lives of the most eminent men of our nation. Without pretending to the graces of language, and with the introduction of less of political or moral reflection than perhaps might be desired, he has produced a book not only plausible and perspicuous, but the most authentic information, but which is read with interest and pleasure by all persons who have any tincture of the spirit of historical inquiry. But while he has thus clothed and almost animated the dry figures of the earlier writers on the higher nobility of the realm, the accounts which he has given of the persons who form the lower class, the barons, in the stricter sense, whether by tenure, writ, or patent, are entirely his own. Nothing before his time had been done to collect their names, to show their origin in the more illustrious and venerable families of the realm. The part of the work, that is, by far the larger portion of it, is pre-eminent in his own; and the best tribute to its excellence is the fact to which we have alluded above, that since its publication it has afforded the materials for all subsequent writers, as genuine and authentic as if he had stood in the position of a contemporary chronicler, and that so few persons have since arisen who have shown themselves able to make any addition of much value to the accuracy of the narrative which he has given of the persons here left.

Not the least merit of the work is the careful reference to authorities, which renders it a most valuable book, not only to the student in the family antiquities of the English nation,—not only to those who are delighted to read of the action of the eminent personages of the English nation on the days of chivalry, in the times of the Crusades, and in the wars with France and Scotland,—but to the practical man, who undertakes to prosecute claims to baronies or other dignities, of which there is always one more or other pretension, and who finds here the reference to the documents which it is necessary to produce in the prosecution of such claims.

This work contains some defects in respect of the general plan, in which we find no sound criterion by which to determine the claims to admission among those who are called barons by tenure. The arrangement also admits of much improvement, and there are occasionally mistakes and misrepresentations in the matter details. Still nothing has yet been done by whom. He who wishes to make the study of heraldry or heraldry a science, re-modelling, correcting, improving, and continuing it to the present day, will enter on his duty with advantages which his predecessor did not enjoy. Some of the chief authorities employed by Dugdale are here printed by the Board of Commissioners on the Public Records, and are now easily accessible to the historical inquirer, who formerly was obliged to content with slight inspections in the offices in which the originals are deposited, or to depend on transcripts which might not always be exact.

One passage in the preface to the Baronage contains a striking truth: 'As this historical discourse will afford at a distance some, though but dim, prospect of the magnificence and grandeur wherein the most eminent and noble families of our nation made their glorious and many a brief and uncertain and transient earthly greatness is; for of no less than two hundred and seventy in number, touching which this first volume doth take notice, there will hardly be found above eight which to this day continue; and of these not any whose estates, compared with what their ancestors enjoyed, are not a little diminished; nor of that number, I mean two hundred and seventy, above (twenty) four who are by any younger male branch descended from the first.'

Baronet, an English name of dignity, which in its etymology imports a Little Baron. But we must not confound it with the Lower Baron of the middle ages [see Baro], with which the rank of baronet has nothing in common, except with the name [see Baronet], though it does appear in some printed books, and in contemporary manuscripts, the state and dignity of a baronet is sometimes called the state and dignity of a baronet, by a mere error, as Seaburne pseudo asserts (Titles of Honour, p. 354), of the orthon.

The origin of this rank and order of persons is to be traced back to the early years of the 17th century, when the title was created by patent of King James I., being an act of the House of Lords, on the 1st of November, 1611, for the benefit of the province of Ulster in Ireland, hit upon the expedient of creating this new dignity, granted by King James I., which was estimated at 1604., to be expended a settling and improving the province of Ulster.

The principle of this new dignity was to give rank, precedence, and title without privileges. He who was made a baronet did not confer on his grandson the right of exemption or right to take his seat in any assembly in which he might not before have been seated. What he did ensure was we best collect from the terms of the patent when the king granted to all who accepted the honours, as those who were the heirs male of their bodies for ever: 1. Precedence in all commissions, writs, companies, &c., before all laymen, including knights of the bath and baronets, except such knights baronet as were made in the field, the king being present; 2. Precedence in all commissions, writs, companies, &c., before all laymen, including knights of the bath and baronets, except such knights baronet as were made in the field, the king being present; 3. Precedence in all commissions, writs, companies, &c., before all laymen, including knights of the bath and baronets, except such knights baronet as were made in the field, the king being present; 4. Precedence in all commissions, writs, companies, &c., before all laymen, including knights of the bath and baronets, except such knights baronet as were made in the field, the king being present; 5. The right of the baronet to be styled Lady, M dentist, or Dames. It was enacted on the part of the king, that the number of baronets should never exceed two hundred; and that when the number was diminished by the death of families, there should be no new creations to supply the places of those extinct, but that the number should go on decreasing. Further, the king bound himself not to make any new order which should be between the barons and baronets of the province of Ulster.

Another distinction was soon after granted to them. A question arose respecting precedence between the newly created baronets and the younger sons of viceroys and peers. It was found that the baronets were in favour of the latter; and in the same instrument by which he declared the royal pleasure in this point, he directed that the baronets might bear, either on a coat or in an escutcheon on their shield of arms, the arms of Ulster, which, symbolical it seems of the local dominion of the inhabitants of that province, as not set forth in the preamble of the baronet's patent, was a bloody hand, or in the language of heraldry, a hand pale in a field sable. And further, the king 'to amply his favour, thus distinguish and multiply the baronets,' did grant that every baronet, when he had attained the age of twenty-one years, might claim from the king the honour of knighthood; that in arms they should have a place near about the royal standard; and lastly, that if their funeral pomp they should have have a funeral pomp they should have the body, a principal mourner, and four mourners to bear, a mean between a baron and a knight.

Such was the original institution of the order. To carry the king's intentions into effect, and especially to ensure the payment of the money, commissaries were appointed to receive proffers for admission into the order. The instructions given to them threw further light on the original constitution of this body. They were to issue with each baronet a parchment such as such of a baronet, as a knight, and the commission of the baronet, were to be enclosed in a book to be delivered to the said baronet by the lord chamberlain, and that the sum of £100 should be paid to the commissioner, or to the son, or to the heir, or to the legal representative of the said baronet, and that the commissaries were to receive an oath of them that they had not directly or indirectly given any sum of money to the attaining of the degree and pre-eminence, except that was necessary for the maintenance of the upholders of the order.

The earliest patents bear date on May 22, 1611, on which day Sir Nicholas Bacon, of Rodegrave, in Suffolk, knighted was admitted the first of the new order; and was then the only other knight of the general of the most distant postern beneath the pinnace. On the 12th of July, 1617, five other patents were issued; and four more in September. The doubt respecting the precedence, and certain usage
which arose respecting this exercise of the royal prerogative, seem to have occasioned a relaxation in the issue of patents, for no more were issued till the 25th of November, 1612, when fifteen of English bachelors (such as were introduced into the number, making in the whole ninety-one. At this number they remained for some years; and it was not till 1622, a little before the death of King James, that the number of two hundred was completed.

On the original points, this order has undergone no modifications since its establishment. But the following alterations have taken place:—1. There has been no adherence to the number two hundred, which by the original compact was to be the limit of the number of patents issued. Every earl or countess did not, however, in this part of the contract, for at his death two hundred and five patents had been issued. The excuse was that several of the baronets had been advanced to higher dignities, and that these that were created, which the king was at liberty to fill. But his successor, King Charles I., issued patents at his pleasure; and the number issued before his death amounted to four hundred and fifty-eight. Later kings have thought themselves bound by this clause of the original compact; but the number is now understood to have no other limit than the will of the king. 2. In the time of King Charles II., the custom was to remit the payment of the money for the support of the soldiers; and a warrant for this remission must be given, and the receipts of the money be delivered up. 3. The rule of requiring proof of coat-armour for three descendents has in numerous instances not been insisted on. But with these variations, the order has remained unchanged.

Various works have been published containing accounts of the families of England who belong to this order. The first of these was published in 1720, entitled The Baronetage of England, the author of which was Arthur Collins, whose similar work on the Peerage of England is held in high estimation. There was an interval of some years before the publication of any similar work; but in 1742 appeared another Baronetage, in 3 volumes, containing valuable accounts of the families of all baronets then existing. A third Baronetage, usually called Wotton's, appeared in 1741, in 3 large volumes, 8vo. This is indisputably the most carefully compiled, the fullest, and the best work of the kind. Another appeared in 1775, in 3 volumes 8vo.; and about the beginning of the present century appeared Mr. Betham's account of the families of the then existing baronets, in 5 vols. 4to.

Baronets of Nova Scotia.—As King James I. established the dignity of baronet in England, for the encouragement of the planting and settling the province of Ulster, so he designed to establish an order of baronets in Scotland for the encouragement of the planting and settling of Nova Scotia. He died however before any proceedings had been taken. His successor adopted the scheme, and in 1626 granted certain tracts of land in Nova Scotia to various persons, and with them, the rank, style, and title of baronets of that province, with precedence analogous to the precedence given to the baronets of England. Some additional privileges were given them; as that the eldest son of a baronet of Nova Scotia, during the lifetime of his father, might claim the honour of knighthood; and that the baronet might wear a ribbon and medal, with badge and insignia of the order. One of the baronets was the arms of the province of Nova Scotia. It was proposed that the number should be limited to 150. The first was Sir Robert Gordon of Gordonston. There were frequent creations of this dignity till the union with England; after which time they ceased to be created.

Baronets of Ireland were instituted by King James I. in 1620, for the same purpose with the baronets of England. The money was paid into the Irish Exchequer. The first person with whom the dignity of baronet fell was Sir Edward Stirling, the Chief Justice of the Common Pleas in Ireland, or Sir Francis Blundell, the Secretary of State.

BARONIUS, CASAR, an eminent ecclesiastical writer, and cardinal presbyter of the Roman Church, was born 31st April, 1538, at Rome, in the palace of the Cardinals. His father was Camillo Baroni, his mother Porzia Polonia, both of noble families. He received his first education at Veroli, and afterwards studied divinity and law at Naples; but the troubles of that kingdom induced his father to remove him in 1557 to Rome, where he continued those studies under Cesar Costa, afterwards archbishop of Capua.

When the emperor Charles V. placed himself under the discipline of St. Philip de Neri, founder of the congregation of the Oratory, by whom, after he was ordained priest, he was attached in 1564 to the congregation of the church of St. John the Baptist in that city. He continued there till 1578, when he was transferred to the church of Santa Maria della Vallicella. In 1593, St. Philip de Neri, having left the superior of the congregation of the Oratory, appointed Baronius his successor; and Pope Clement VIII. not only approved the choice, but some time after made Baronius his confessor. In 1598 he was advanced to the dignity of cardinal, June 3rd, 1599, and finally made him librarian of the apostolic library. Upon the death of Clement VIII. in 1605, Baronius had thirty votes in the conclave for his election as pope, but the Spaniards opposed his election on account of his treatise De Hierarchia Sacerdotum, in which he had argued against the claim of Spain to that kingdom. Baronius's intense application to study weakened his constitution, and he died at Rome, June 30th, 1607, aged sixty-eight years and eight months, and was interred in the church of Santa Maria della Vallicella, on the 13th of July.

Baronius was a man of sincere piety, great probity, learning, and extensive reading, who laboured with success in the service of the church to which he belonged, and in his employment as a cardinal, orator, and librarian. His celebrated work, his Annales Ecclesiastici, when he was thirty years of age, and continued for thirty years collecting and digesting his materials. The first volume of this work, which contains the first century after Christ, was published in 1608; the second and last, 1656. Another edition, Annales Ecclesiastici, fol. Ven., 1656; Antw., 1659; Rom., 1668. A second edition was published, fol. Ven., 1693—1699, followed by others progressively from the different presses of Augsburg, Antwerp, Ments, Amsterdam, and Venice. The best edition of all is that by Odoardo Rinaldi, in 19 vols. fol. Luc. 1738—1745, followed by an Index Unius, 3 vols. fol. Luc., 1757—1759, and accompanied by his Commentarius historiarum in annalibus baronum ecclesiasticorum car_glob ESVNT Apparatus., 1 vol. fol. Luc., 1742, followed by a supplement. This work is of great use in the teleography of the church, and an abridgment of the whole, in Latin, by Hen. Spandonius, at Paris, fol. 1612, and in numerous subsequent editions. An epitome of the Annales, in Arabic, was published at Rome under the auspices of the Propaganda Society, 3 vols. fol. 1653—1671. Two or three more abridgments, in other languages, are noticed by Mazzuchelli.

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12. Relatio Concilii Arelatense; MS. in the Barberini library.
The great work of Baronius has been severely criticized by Holstenius, Isaac Casaubon, Comber, and others [see Bargum, Samuel], on account of its alleged errors and mistakes; but these, perhaps, are not more numerous than are those of other greatest extent. In relation to controversies, he was always a party writer; but, after all, his work is one of the most useful and important on the subject, and Baronius is by some styled the father of ecclesiastical history. Besides Rinaldi, there are two common Anglicans: one to the year 1573, by Bowrion, 9 vols. fol. 1616-1672; the other extending to 1639, 2 vols. fol. Paris, 1639.


BARONY. [See Baron.]

BAROSCOPE, the per centage of weight, is a term which has sometimes been applied to the barometer. It may, however, be well applied to all such barometers as, from badness in their principles or construction, show a change of the air's weight, without furnishing any good means of measuring it. Such barometers are called baroscopes. The human body is sometimes, to a certain extent, a baroscope.

BAROUNSE, a valley in the Department of Hautes Pyrénées (High Pyrenees) in France; one of those four which project the skirt of that large mountain range, and are included in Aragnac. [See Aragnac.] It is a cold country, but affords good pasturage; and its fine forests yield timber for the carpenter and the shipwright. It contains eighteen parishes; and in 1762 Exiguely stated the number of its inhabitants was 3,000; formerly, for every 10 persons to a household, would give 6,865 persons for the population of the valley. We have no later authority for the number of the inhabitants. The chief town is Mauléon or Montalou en Barouss, which had, at the beginning of the present century, 610.

BAROZO. [See Vignola.]

BARQUISIMETO, a city of South America, in the province of Venezuela, 120 miles W.S.W. of Caracas, 5° 30' N. lat., 69° 32' W. long. The city was founded by the Spaniards in 1522. In consequence of its situation upon an elevated level, it has the benefit of every breeze; and thus, notwithstanding its position within the tropics, it generally enjoys a mild temperature. Lavayse was assured that when no wind is stirring the thermometer rose to 26° and 27° Réaumur; but the elevation of the site led him to doubt this. The neighbourhood is very fertile, and the plains, valleys, and hills afford a great variety of products and fine pastures for cattle. In the valley most of the products of the country, especially coffee, are raised. The quality of the town was formerly well built, with straight and wide streets: it had a handsome parish church, and there was a rich Franciscan convent, and an hospital, in which were diligently cultivated. The town, with its vicinity, contained, when Lavayse wrote, a population of 15,000 persons; but Barquisimeto is now but a remnant of what it formerly was. No place in Venezuela suffered so much as Barquisimeto from the great earthquake which desolated the province in 1812. Scarcely a house was left standing, and it is said that 1500 of the inhabitants were buried in the ruins. The inhabited part is now comparatively small, having been built since that period with much taste, and almost in every direction. The population, with the environs, water tracts, &c. go, estimated at from 8000 to 10,000, the greater proportion inhabiting the villages near the town. We have, at a more recent period, seen the population estimated at 12,000, which would imply that the place is gradually recovering from the effects of the calamity of 1812. (Lavayse's Voyage aux îles de Trinidad, de Tabago, de la Margueritte, et dans divers ports de Vénézuela, 1813; Letters written from Columbia during a journey from Caracas to Bogota, and through the Western Highlands in 1823.)

BARR, or, as it was formerly spelt, BAAIR, a small town in France in the department of Bas Rhin (Lower Rhine), distant about twenty miles from Strasbourg to the north, and about thirty from the south. It is an ancient town, and has no other authority. It is in 46° 25' N. lat., 7° 27' E. long., and situated on a brook which runs into the Andelau, a tributary of the Ill. The town received great damages in 1794, from the explosion of its arsenal, but it has since been more regularly built. It is situated in a beautiful valley, surrounded with vineyards; and its inhabitions, who number in 1794 to 3729 for the town, or 4514 for the whole commune, carry on considerable manufactories in spinning and weaving, and also bleaching-grounds and dye-houses. (Maille Bros. Balbi.)

A small forest in the neighbourhood takes its name from this town.

BARR, or, BARRA, a petty kingdom of Western Africa, at the mouth of the Gambia, extending eighteen leagues along its northern bank, with a breadth of fourteen leagues and containing an area of about 230 square leagues. The and some neighbouring kingdoms on the Gambia were conquered by the English in 1665, when over 20,000 men, and having conquered the countries near its mouth, was induced to maintain himself by the aid of reinforcements from the interior, and of the weapons which the Europeans in exchange for slaves. It was especially for the purpose of facilitating the operations of the traders in slaves that the expedition was originally undertaken. When Amari-Sonko died, his conquests were divided among his five sons, who were known as Bokar, Bokar, Kallol, and Badouh. Their descendants still roamed, and the memory of these events is preserved by traditions among the people. The Mandings of Bara and the other two kingdoms are a fine race of men; their average stature is five feet ten inches, but this is increasing, and their countenance has more length than is usually observed among negroes. Their habitations and modes of living display more comfort than is found among their neighbours the Jaloof. It is remarkable that the houses of these people are of wood, and are occasionally tiled. They are all zealous Moslems, very active in their labours, very intelligent, and very cunning in commercial affairs, their general character is hospitable, benevolent, and amiable. The territory of this small state is very extensive, and contains a number of cultivated villages. There are some fine forests, but they do not together occupy more than one-tenth of the surface, which is rather marshy, but very fertile, and capable of being rendered highly productive with little expense. Galley Bay is besieged by a small island, over which the eastern and western sea nearly meet at high water. The southern and larger portion contains a rocky mountain about 200 feet high, which descends steeply into Chassail Bay, and declines to the north and east by a succession of lower hills, terminating on the shores in various rocky points that separate the small valleys in which the population lives. The land is sandy and of but little value, even where it is susceptible of cultivation. The people of this country are very lusty and active, and the natives are noted for their care of cattle, which the proprietor buys up for exportation to the towns. Agriculture is not in a flourishing state. The rude-plough, an ancient instrument carrying the plough only, and preceding what which consumes the earth, as is used in France. A considerable number is employed in collecting sea-weed and burning it into ash. The Bama are among the most active and industrious inhabitants in Scotland. They carry on an extensive cod and herring industry. They take the herring to the coast of Russia, and are superior to those of the other Western Islands and of course of what peculiar construction. They are built by the fishermen themselves, and are of considerable size, so as easily to carry ten or twelve men, and exceedingly sharp both below and above the water. They are made of planks from the thick oak, so that a transverse section somewhat resembles a wedge; yet they are swift and safe. The fishermen are comparatively wealthy, but their houses exhibit no Dutch
ority to those of their poorer neighbours. The houses in Barra only differ from other Highland houses in one particular, which is, that the roof springs from the inner edge of the wall instead of the outer, in order that all the rain may be caught by the wall, and make its way among the stones, thus preventing the forming of cresses by which it should consider a greater inconvenience. In this island, as indeed, in most of the Western Isles, shell-fish are very abundant, and form at all times a great resource to the people. They are in the habit of boiling limpets, clams, and other species, and making the most excellent arrangement of fish and shell-fish, either salted or oatmeal.

The great sand-bank at the north end of Barra produces cockles in such immense quantities, that in times of scarcity, when the inhabitants have resorted to them for their daily subsistence, from one to two hundred horse-loads have been landed on the sands every day of the spring-tides during the months of May, June, July, and August.

The Gaelic language is said to be spoken in its greatest purity in Barra. The inhabitants are mostly Roman Catholics. There are three churches in the island, one at the village of Barra, and two at Killisar, one of which belongs to the Catholics. The Edinburgh Society for Promoting Christian Knowledge supports a school at this place; a school-house and a dwelling for the master having been built by the benevolent society, in proportion as the late Mr. Roderick Macnail, Esq., whose predecessors are said to have possessed them before the Danes. The Macneils of Barra were the first of that name that came from Ireland, and have always been acknowledged the chief of the Macneils in Barra. The island of Barra also contains a fine peninsula which includes seven other inhabited islands, and several uninhabited. The population returns for 1831 do not state the population of this island separately, but give that of the whole parish as 1097, of whom 1677 are females. This is a decrease of 263 persons on the census of 1821, which, in the population returns, is attributed to emigration to North America.

(M'Culloch's Highlands and Western Islands of Scotland; Carlyle's Topographical Dictionary of Scotland.)

BARRACK, originally a hut or little lodge for soldiers in a camp; from the Spanish barraco, meaning small cabins, such as fishermen build upon the sea-coast. Temporaries, or huts formed for the purposes of barracks; those for the foot, huts; but, in later times, the word barrack has been indifferently used for both. Barracks of this description are generally made by fixing four forked poles in the ground, and laying four others, which are cut to a common length, and made to fit with sods, wattles, or whatever the place may afford, and the top planked, thatched, or covered with turf. Modern camps, as far as the common soldiers are concerned, are now usually formed of such barracks arranged in streets; the officers have lodges in tents.

The word barrack does not occur in our older dictionaries, though it is found in Philadelphia's World of Words, 1766. In 1700, Barrack, in a more enlarged sense, is now applied to permanent and commodious buildings in which both officers and men are lodged in fortified towns or other places.

A writer in a periodical paper entitled Common Sense, No. 103, published in 1739, speaks of permanent barracks for the lodging of troops as already introduced. He states that a few years before, in 1729, when the plague raged at Mannheims, an attempt was made to raise such buildings in London, under pretence that if we should be visited, the sick might be removed to them. But the design was seen through, and the sound of the alarm, and cried out they would have no red-cost-nurses.

Great opposition was made in parliament, during the French revolutionary war, to the erection of barracks on an extensive scale, as it was not imagined that the inhabitants of the country as calculated to estrange the soldier from the citizen, and to render the former a fit tool to enslave the latter, should the people be called upon to submit to unpopular or arbitrary measures. Other arguments had greater weight, however, on the part of the adherents of the old system of quartering, which, in many instances, vexatious; the morals of a country town or village were corrupted proportionally as soldiers were quartered upon the inhabitants; and it was found that soldiers and citizens might be too much, as well as too little, for each other.

Until the middle of the reign of George III., barracks of this last description were not numerous in Great Britain. When wanted, they were built under the direction of the Board of Ordnance, by whom they were supplied with bedding and utensils; but the articles which were extraordinary were under the management of the secretary-at-war. The system prevailed until the middle of 1792, when the situation of public affairs induced his majesty's ministers to give orders to build, with the utmost dispatch, cavalry barracks in various parts of the kingdom; and Colonel De Lancey, then deputy-adjutant-general, was requested to undertake the whole business. In 1792, an act was passed, appointing superintendent-general of barracks, and on the 1st of May that year the king's warrant was issued for their regulation. More extensive authority was given to him by a warrant dated May 20th, 1794, when he was appointed to the office of barrack-master-general to the forces. But as this seemed to interfere with the duties and powers of the Board of Ordnance, a new warrant was issued in 1795, defining the powers of the barrack-master-general, and those of the Board of Ordnance; under which warrant Lieutenant-General De Lancey acted in all subsequent transactions. The salaries and extra pay of the barrack-master-general and his officers amounted, in 1796, to 952l. 17s. 2d. The establishment was afterwards considerably increased. The number of barracks spread out over the kingdom multiplied, and by the creation of new officers. In March, 1806, their salaries amounted to 19,329l. 6s. 10d.

During this year, the commissioners of military inquiry recommended that the offices of barrack-master-general and deputy barrack-master-general should be totally abolished, and that the superintendence of the barracks establishment should be vested in commissioners. This suggestion was, with some other, the mode of transcending the business of the department, and providing less and extravagant expenditure, have been followed, and the barrack establishment is now under the direction of four commissioners, one of whom is generally a military member. Tracts of England.

The total expenditure in Great Britain and the islands of Guernsey, Jersey, and Alderney, on buildings for the purposes of barracks from 1793 to November 10th, 1804, was 4,113,385l. 6s. 13d. The total expenditure in Great Britain and Ireland, 1793 to 1804 inclusive, was 10,366l. 14s. 6d. (including the artillery), from 11th November, 1804, to 24th December, 1819, 3,520,857l. 17s. 5d. Expenditure from 1793 to 1819, in buildings in Great Britain for the purposes of barracks for the artillery, 733,484l. 2s. 7d. Barack Accounts for the period 1791 to 1806; and Barrack Accounts of Expenditure for Buildings, ordered to be printed by the House of Commons, July 3, 1820.)

BARRAHAL, or BARRMAUL, a subdivision of the province of the Sinsky, or sub-district of the Durrus, situated between 19° and 14° N. lat. The name Barrahal, which signifies the twelve places, was given to the district because it contained twelve fortresses which were once places of note. The names of these places, as given by Major Rennell, were, Kistna-riga, Gedagdewy, Candelwy, Conooonga, Vaniambady, Maharauggry, Cocunkry, Coconut, Baragru, Tadagru, Tiduffal, and Gigaunur. Only three of these places, Kistna-riga, Vaniambady, and Tripator, are now existing, and none of them are places of much length. The township of Barrahal is about forty years ago by the English. Vaniambady has a mud fort incapable of withstanding an assault of European troops, and Tripator is altogether an open town.

The Kurrum or Kurrume, a mountainous and hilly region, above the eastern ghauts, and at one time contained a considerable number of hill-forts, which are now either dismantled or have fallen to decay. After the capture of Serieng-patam in 1799, several districts of Kurnata were added to the Barrahal district. The following district is thus ennumerated by Dr. Francis Buchanan (afterwards Hamilton), are, 'the Taluks of Hossu-urru, Denkina-cotay, Kella Mangulm, Ratnapari, Venegatari-cotay, and that portion of the Alumbray Taluque which lies on the left of the Cavery, together with the Taluque of Bumbar, and Pedea-Nakayana-Durga, Baggoula, Suligiri, and
Anksamagiri. The temperature of these added districts is much colder in the rainy season than it is in the ancient district of Barramahal, and the climate is not so healthy. On the occasion of the campaign, it was also mentioned, that Peyer, who had been dispossessed by Tippoo Sultan, had their estates restored to them, and were placed by the British government on the same footing as the Zamindars of Bengal, paying a fixed rent or tribute for their land, but exercising no jurisdiction over the inhabitants of these villages.

The construction and conservation of tanks in countries where the successful prosecution of agriculture depends mainly upon irrigation, is a matter of the first importance. In the United States, the cultivation of the land is greatly assisted by a system of irrigation. The whole of the ground is constant crop, and besides producing green vegetables and eucalyptus fruits for the families of the cultivators, it yields wheat, maize, etc. (Cy}noxerus corycus), which supplies the greater part of the love and health. It is multim door a day, and is much used in preparing sweetmeats and cakes for the wealthy. The operation of extracting opium from the plant is found to lessen the quantity of poppy-seed that arrives at perfection.

Some coarse manufactures are carried on in the district, but the more wealthy inhabitants draw their supply of such necessaries from other parts, and in a great degree from Salem and Bangalore.

When the Barramahal districts first came into the possession of the East India Company, their state was in every respect inferior to the other; but the Government treated them with equal consideration and kindness, and the country is infested by beggars. The condition of the cultivators has, however, been so far improved, although the nominal rents have been reduced, the revenue derived by the government has been more than doubled. Near all the inhabitants of this district are Hindus; only about one-twentieth are Mohammedans.

(Bennell's Memoir of a Map of Hindostan; Buchanan's Journey through Mysoor, Cannaor, and Malabar; Reports of the Committee of the House of Commons on the Affairs of India, 1832.)

BARRAS, PAUL JEAN FRANCOIS NICOLAS, COUNT DE, a member of the French Directory, and an important actor in some of the principal events of the French Revolution, born at Tours, June 30, 1755, at Fox, in the department of the Var. His family was of old French nobility, and among the most eminent among the nobility of Provence. In 1773 he entered the army, and served for the Isle of France, but the vessel was wrecked on her passage. Owing partly to the exertions of young Barras, and partly to the negligence of the captain of the vessel in the conservancy of his ship, this was the only disaster of which he was the cause. He again returned to France, with Dufresne, where he did not remain long; he left that country with the intention of returning to the service of Goldsart, but, not arriving in time, went to Paris. Here he expressed himself with so much freedom respecting the conduct of the war in India, that a lettre de cachet was prepared for him, by the government, on being prevented by the exertions of an individual friend. At this period Barras was a young man of pleasure, and in this career he soon wasted his moderate fortune. The Revolution at length commenced, and he immediately became one of its warmest partisan. Though he joined in the attack on the Bastille, he declined many of the excesses of that period; but he partook of them only when he was called upon by his party, and was a member of the Committee of Public Safety, which body he attended from time to time. In the Convention he received various public commissions, in one of which he was engaged in the south of France until the time when the English blockaded the town of Marseilles. On this place falling into the hands of the revolutionists, he was immediately appointed to the commission which was established to maintain the town. He took his place on the commission and entered into effect the frightful orders of the Convention for the suppression and execution of the traitors. Through the influence of Barras, his commission did in some degree mitigate the severity of the original orders; but more than four hundred people were executed. Only he and another member escaped the denunciation which its proceedings excited on the part of more than three hundred of the political enemies of the Revolution. On the 10th of January, 1793, he was arrested and taken to Paris. Robespierre received him with a striking expression of his own energy. At this time terror reigned in all parts. The Girondists, and even Danton, had persisted in the revolutionary scaffold; and Barras was determined to go on, whether he was guillotined or not. On the 20th of June, 1793, he was tried and convicted by the Convention, on the charge of character and other considerations, he was a pace of considerable importance among one of the few opponents of the terror. Robespierre beginning to fear that no power was on the decline, meditated a new process; and on the 20th of June, 1793, he was therefore engaged to go to the Convention, where he was taken, and, although he insisted on his innocence, who, however, refused to ally himself with the tyrants, was even made known to his colleagues the proposition of Barras, adding, he is lost in spite of the Convention; finding it impossible to treat with Barras, Robespierre kept him in prison for four months, and the latter was released to prison, from which he was finally escaped. He arrived at the command of the Parisian Guard, a creature of the Convention, which, in its triumphant progress, marched on the Convention, which, in its triumphant progress, marched on the Convention, and was at once seized and thrown into the prison, from which he was finally escaped. He arrived at the command of the Parisian Guard, a creature of the Convention, which, in its triumphant progress, marched on the Convention, and was at once seized and thrown into the prison, from which he was finally escaped. He arrived at the command of the Parisian Guard, a creature of the Convention, which, in its triumphant progress, marched on the Convention, and was at once seized and thrown into the prison, from which he was finally escaped. He arrived at the command of the Parisian Guard, a creature of the Convention, which, in its triumphant progress, marched on the Convention, and was at once seized and thrown into the prison, from which he was finally escaped. 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BARRATRY, BARaratY, or BARARTRY. The original derivation of this word is extremely uncertain: in English law it has a twofold significance, which it is difficult to trace from one to the other, and which is frequently a matter of controversy.

First, barratry is a misdemeanor at common law, and consists in frequently exciting and stirring up disputes and quarrels either by litigation in courts or otherwise; and secondly, it denotes a degree of culpable negligence as amounts to fraud or bad faith connected with the master or mariners of a ship with relation to the ship or cargo under his care, by which the owners or freighters may be injured. The Italian word barratico, from which the term barraty in this latter sense is immediately derived, means to cheat generally; but in English law it is usually a technical expression, and is only used to denote that particular description of knavery above described.

As to the misdeemane of barraty at common law.

This offence, and the punishment attached thereto, has been so little noticed in modern times by courts of justice, that it would probably be found difficult at the present day to prosecute a barrattor to conviction. Sir Edward Coke says (1 Inst. 195), 'It is not necessary, in order to constitute this kind of barraty, that the accused be promoted by the barrattor should be commenced in courts of record; the offence may be committed by stirrupig litigation in hundred or county courts, or other inferior jurisdiction.' It is also a misdemeanor, and strictly speaking, under the command of the army of St. Domingo, and even a medal which Bonaparte had struck. Under the operation of a law which compelled military men deprived of their rank to reside above forty miles from the capital, he sold his estate at Chantilly for 14,000 francs, and receiving with him, he obtained leave to retire to Marbeuz, where he lived, as before, under surveillance, attending quietly to agricultural pursuits. In 1813 he was inculpated in a conspiracy, and underwent some interrogations; after which he was compelled to leave France, and was indicted for the wounding of a soldier, he was accused of being connected with a conspiracy, but the preliminary investigations into its character and ramifications were broken up by the fall of Napoleon; indeed, he was questioned by his judges for several years, but never brought to trial.

In 1814 he took up his residence at Paris. Being consulted as to the course of affairs by the newly-restored government, he replied to M. de Blancas, 'You will lose the king; your only concern, mine, should be to think of defending yourselves and him at London.' In 1815, foreseeing new troubles about to burst on France, he withdrew from Paris, but returned on hearing of Napoleon's disembarkation. Meeting the Duke of Orléans (Fouché), Barras asked him if he might at a later time join him in the invasion of Egypt, and Barras replied, 'Oh, do not doubt it; you will be called to the Chamber of Peers.' Barras answered, 'I will never associate myself with the oppressors of the people; and during the Hundred Days he accepted no public employment. Afterwards he resided at Chantilly, near Paris. He died in January, 1829. Barras was more fond of pleasure than of business, but he was not destitute of talent; inclined to indolence, he could show firmness and activity at times; he had a genius for business and taste for the arts, which are not always compatible; his manners were good and natural, generous towards his friends, and prodigal in his expenditure. Notwithstanding his affections of republicanism, his manners and tastes were those of a nobleman of the old monarchy. He could speak well and to the people, and told his friends on that occasion that Barras shared the odium which it incurred for its arbitrary acts at home, and its disobedience in its foreign relations. Of the latter we need only mention the unprincipled invasion of Switzerland, the plunder of the Italian States, the barrier of Vincenne against the invasion of Egypt, the declaration of war, and while France was at peace with the Porte, &c. The details are found in the official documents of the time, in the reports of the legislative councils, and especially in the acts of accusation read in the Council of Five Hundred on the 9th August, 1879, in which the charges against the Directory are classed under nine distinct heads, Part I. (Histoire de la Révolution, et du Directoire, Paris, 1801, &c. (See Directory Bureau.)

II. Barratry by masters or mariners of ships.

This offence is not an object of the criminal law of England: and in this country is only a subject of importance with reference to marine insurance. From the earliest times, a loss by the barraty of the master or mariners has
formed a subject of indemnity by underwriters in British policies of insurance. The absurdity and impolicy of inserting this species of loss in marine policies have often been pointed out by high authorities, and extruded by Lord de Tabley in the case of Nuth v. Bourdieu (Term Reports, vol. i. p. 330), that this term should have crept into insurance, and still more that it should have continued in them so long, for the underwriter insures the goods (which for this purpose cannot dismission) to the owner, who can do either. Lord Ellenborough makes the same remark, and also points out the impolicy tendency of this kind of insurance, as enabling the master and owners, by a fraudulent and secret understanding, to avert the peril of an illegal adventure, of which the benefit, if successful, would have belonged solely to themselves. (See Earle v. Rowcroft, East's Reports, vol. viii. p. 134.) Upon this it may, however, be observed, that merchants are always desirous of limiting the number of their risks as much as possible; and if they are willing to pay for their indemnity from the fraudulent acts of their own servants, there seems to be nothing unreasonable in such a contract; while, on the other hand, it is the whole business of underwriters to insure against risks, and it is quite indifferent to them what the nature of that risk is, provided they clearly understand the nature of it, and receive a proportionate premium.

The legal meaning of the term barraty thus inserted in policies of insurance is not improved by the nature of the subject of discussion in courts of justice. Its original and verbal signification is framed in the most general sense, and is defined in Dufresne's Glossary as 'frauds, dolus, qui sit in contractibus periam, in navigiis, seu in terris, sine being limited to making contracts, or to any particular class of contracting parties. In English law, however, it is certainly understood only in the limited sense mentioned in the commencement of this article. It means every species of fraud or knavery in the master or mariners of the ship by which the freighters or owners are injured. Barraty may therefore be committed either by a wilful deviation tending to defraud the owner, by smuggling, by running away with the ship, by sinking or deserting her, or by delaying the voyage by any means, or for any length of time, with a fraudulent intent. It follows, that in all cases where the underwriter has insured against barraty, the assured will be entitled to recover the amount of a loss which he may have sustained in consequence of any of the acts above enumerated. There must, however, be always a fraud or breach of trust. There are two ways of doing this; either to constitute barraty; and therefore a mere deviation in consequence of the ignorance of the master will not amount to barraty, though it would avoid the policy as being a variation of it. It must be an act tending to defraud the owner; and therefore where the owner consents to the acts done by the master, though they may amount to a gross fraud upon the underwriter, they will not constitute the technical offence of barraty; and, for this reason, where the underwriter is an owner, there can be no barraty committed by him, because he cannot defraud himself. For more particular on this subject see Selwyn's Nisi Prius, tit. 'Insurance;' and Park on Insurance.

BARRAUX, a small fortress of the department of Isère, in France, on the frontier towards Savoy. It is a place of considerable strength, and was erected in the year 1597, by order of Charles Emanuel, Duke of Savoy. The Duke seems to have had the prudence of erecting a fort in the territories of the King of France. The Constable Lesdiguières, who commanded the French army close at hand, allowed the work to proceed without interruption, in spite of the pressing necessities of those under command. The incident was tried at court, and as the inaction of the Constable furnished his enemies with the opportunity of calumny him. The king himself, Henry IV., blamed him; but Lesdiguières desired him not to be uneasy; represented to him that the fort was requisite in this part of his dominions and that if the Duke had not done it, his Majesty must; assured him that, when it was finished, he would take it without cannon, without laying siege, and without the cost of a crown. He kept his promise; for the French sustained it, on the 13th of May, 1598. The fort remained in the hands of the French by the treaty of Vervins, concluded in the same year.

It is on the right bank of the Isère, not far from the Savoyard fortress of Montmélian, to which it serves as a check. The population was given in the Dictionnaire Universel de la France (Paris, 1864) at 1312. The fort commands a fine view of the valley of Grenbanian, in which a number of the villages lie, some of the ruins of a château, once belonging to the Chevalier Baynard.

Barraux is about 374 miles N.E. from Paris; and about 33 miles N.E. of Grenoble, 45° 37' N. lat., 5° 56' E. long. BARRÈGE, BARGÈRE, OR BAREDOES, a village in the county of Banat, in the department of Hautes-Pyrénées (High Pyrenees), in France, 491 miles from Paris, through Orédes, Limoges, Périgueux, Angou, Auch, Tarbes and Argeles, or 566 miles through Limoges, Cére, Montanges, Tarbes, Bagnères, 45° 55' N. lat., 6° 4' E. long.

The village stands amidst steep mountains, at an elevation of 4259 feet above the level of the sea, on the bank of a torrent which runs into the Gave-de-Pau. (Millin, l'Empire Français, Dips...de l'Ain en France, § 75.) It consists of one long and narrow, formed upon the slope of a mountain, and has little to recommend it in point of situation. The dark impending rocks seem continually to threaten the place with destruction; and the ear is wearied by the constant rumbling of the torrent, which carries along with it large blocks of stone. Yet the celebrity of the waters attracts a crowd of bathers, or of those who drink the waters. These reputation rose in the time of Louis XIV., who visited Barrèges, in order to take them. The place contains only about 90 houses; or a hundred inhabitants, just put together as scarcely to merit the name of houses. The herd of having them destroyed by the overflowing of the torrent (especially when it is swelled by the melting of the snows) prevents the other inhabitants from using the springs. The river, on one side of the street overflows the river, the other flows against the side of the mountain. Towards the middle of the village, in the part most exposed to the inundations, the houses are built only of boards, and are taken in winter at the closed of his bathing season. Not far from the range of temporary dwellings, beneath a flagged terrace, or court which is enclosed by a wall breast high, as a bench, divided into two parts, one for the poor and one for the soldiers. There is a barrack, erected by Louis XV., for the barraged soldiers, but is insufficient, containing only 22 beds. There are four baths (or five, according to others varying in their temperature; that which is divided into the two compartments just mentioned is the hottest — its temperature is stated by M. Miller to be 39° of Fahrenheit; or nearly 195° of Fahrenheit; but in Malte-Brun it is given at 50° of Réaumur, or nearly 145° of Fahrenheit.

The waters are sulphurous and sudoric: we saw considerable signs of healing wounds. There is a chapel of the village; and the neighborhood presents many pleasant walks.

The population of this little place is given in the Dictionnaire Universel de la France (Paris, 1864), at 600. We have no authority later than this. About six hundred persons are said to inhabit the place every summer; and there are some Carlungs, with greenish veins.

The name Barrèges, in Celtic, is said to signify a revetted place, and well corresponds to the situation of the village. (Millin, l'Empire, &c.)

BAREL. Ducange states the word barrel to be Brune. It is found in some shape, in several European languages, as a large vessel for holding liquors. In the old English measures it was used to denote

| 31 3 | old gallons of wine |
| 36 | beer |

But the ale and beer barrels were equalized for every part of England except London by a statute of the 1st of William and Mary, and thirty-four gallons were made the barrel of beer or ale.

In New England a wine gallon, by a statute of Anne, was deposed to be 211 cubic inches, and the beer gallon (which did not differ from the ale gallon) was usually reckoned as 231 cubic inches; consequently the dimensions of the four barrels were as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Capacity</th>
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<tbody>
<tr>
<td>Wine barrel</td>
<td>31 3</td>
</tr>
<tr>
<td>Ale ditto (London)</td>
<td>34</td>
</tr>
<tr>
<td>Ale and beer ditto (England)</td>
<td>33</td>
</tr>
<tr>
<td>Beer ditto (London)</td>
<td>34</td>
</tr>
</tbody>
</table>
In imperial gallons of 277.274 cubic inches, now in use, these measures are as follows:—

Old Wine barrel

- Ale ditto (London) 34

- Ale andaker ditto (England) 34

- Beer ditto (London) 34

Many other barrels were in use to denote certain quantities of goods usually sold in barrels; thus the barrel of saltpetre was forty-two gallons, that of soap 326 pounds, &c.

The measurement of the content of a barrel may be done with sufficient exactness as follows, in which the curve of the barrel is a parabola, and which, for want of better soils to employ and feed an increased population, are well worth improving, and will ultimately repay the labour bestowed on them.

By the third Report of the Committee on Emigration, in 1828, it appears that the soil in the British dominions may be divided as follows:—Taking the total surface of England, Wales, Scotland, Ireland, and the British Islands, at 77,394,433 acres, only 46,529,970 acres were in cultivation, leaving 30,874,463 acres uncultivated or nearly so. Some part of this, no doubt, consists of high sheep walks, mountains, bogs, and water; but a large portion is capable of improvement, by the application of capital and industry. The particulars are as below, and are given in the Companion to the Almanac for 1829.

Looking at this table, it is impossible not to ask whether so very large a proportion of the surface of the British dominions can be cultivated without industry and skill, than from insuperable barrenness.

We shall endeavour to give, as briefly as possible, an outline of the various means by which even the poorest soils can be rendered remarkably productive of staple articles of agriculture, a stock of food necessary for a large and increasing population. The question is to the policy of cultivating such lands in preference to importing supplies of foreign grain, is not here considered. Our object is to show how barren lands may be improved, whenever such improvement may be deemed expedient.

Some lands are barren in consequence of noxious ingredients in the soil, which by their chemical action on the food of plants, or their snorting fibres, prevent their growth and render them sickly and abortive. The harassing results, obtained by careful analysis, must be deprived of their noxious qualities by chemical means, one of the most obvious of which is burning or baking. Nature has supplied a general and complete antidote to acid combinations, in lime, one of the most abundant of mineral productions. There are few bad soils which lime will not improve. The most common substances found in barren soils are different combinations of metals, principally iron, with sulphur and acids: they are usually mixed in such a manner as to render them unpalatable to vegetation, and it is not easily discovered to destroy them. This, likewise, is readily corrected by chemical means, and experience has proved that of all substances which can be obtained in sufficient quantities, lime is the most valuable as an improver of bad soils. But the difficulties of the substances with which we are to contend are sufficiently innocuous to vegetation, and yet the barrenness may not be the less, if the supply or circulation of moisture be deficient, or excessive. This must therefore be the first consideration, before any improvement is attempted; and if sufficient moisture cannot be supplied, or superfluous removed, all other attempts will only be lost labour. In tro-
recting the crude qualities of the soil, than the small quantity of vegetable matter which is dispersed would have done, and the tough roots of the heath which are reduced to ashes would have taken a very long time to decay, it would have been a constant impediment to the plough. For: if the soil is a sharp sand, and the ashes are white and burning destroys the small portion of clay and vegetable matter in the soil, without compensating the loss by an advantage, and in this case burning the surface is inexpedient. The roots of the heath must be grubbed up, the spaces and matts, or by means of a strong plough. The may then be gathered and burnt, but the grass must be ploughed in, and not too deep at first, that it may soon resume a coating of time ploughed in will accelerate the decay of the grass. This kind of soil requires the addition of vegetable and animal matter to supply the humus in which it is deficient, and the principal attention must be directed to this object.

When the surface is very uneven, so as to form hillocks and hollows, in which the water is apt to stagnate, leveling is a necessary process. The usual mode of doing this is by the wheelbarrow and shovel, provided the distance to which the earth is to be wheeled does not exceed a hundred yards. The surface should be first pared off, and put in heaps or rows, to be replaced when the operations of levelling has been performed, in order that the best soil may be impregnated more or less with vegetable matter, may not be buried under the poorer subsoil. If the soil is loose and sandy, it may be very expeditiously levelled by an instrument in use in Flanders, which they call a modellier.

It is a large wooden shovel, shod with iron, having a long handle: about the middle of this shovel, which is convex at the bottom, two books or tools on each side, in the form of a square chain, are fixed, which unite at the bar to which the trammes of horse or horses are to be attached: a rope fixed to the end of the handle completes the instrument. A man accustomed to the use of it raises the handle, and the shovel strikes on the ground, and is filled by the horse gazing on. By depressing the handle, the load is made to slide on the rounded bottom of the shovel, till it arrives at the place where it is to be deposited. By letting the handle go, retaining the rope, the whole is upset instantly, turning over on the handle strikes on the ground, and is filled by the horse gazing on. By means of this machine the small fields in Flanders are raised about two feet or more in the centre, and the ground laid convex, sloping in every direction to let the water run off. Thus also the soil of the headlands, which are raised by the repeated turnings of the plough in our fields, might be carried back to the middle, or spread evenly over the ground. A patent has been lately obtained in Pennsylvania for an improved instrument of this kind, which has two large wheels for each ground as will not readily slide over it. It is more complicated, but as it may afford useful suggestions, and be improved and simplified, we give a drawing and description of it.

A is the box or shovel to contain the earth, the bumper or which opens to release the load; B is the handle, C is the bar by which it is raised; D is a windlass, with or without a wheel to raise the box when full; E is the pipe on which the second wheel runs, which has been taken off in show
the construction of the instrument. It is not yet brought into general use, but the experiments made with it are said to have been quite satisfactory.

The land being now seeded, fenced, and drained where requisite, obstacles to the ploughed, and in a tolerably level state, it remains only to consider how it may be most advantageously cultivated, so as in the end to repay the first and great outlay. Some lands which have lain waste for ages for want of a proper spirit of enterprise, are found to consist of a tolerable depth of moderately fertile earth. These must be treated as a garden newly formed, and , when exposed to the air and frost will often make them highly productive, and in this case the only caution necessary is not to exhaust them at first; on the contrary, their fertility should be increased by such crops and manuring as will always restore more humus than has been consumed by vegetation. It is too common an error with those who have made a great outlay, to be impatient, and expect too rapid a replacement of the capital laid out. This makes them sow white crops in preference to roots and legumes; and as fresh earth is generally very productive, especially in straw, they imagine the land to be of a better quality, than it really is, and soon exhaust it, by which they lose infinitely more in the end than if they began with roots and green crops, and raised a quantity of manure by the stock fed on them. Lime exerts its new wonderland, and no manure is more active, provided there be vegetable matter in the soil or added at the same time. The lime renders the natural humus soluble and active, and, if put on injudiciously, will soon leave none for future crops. Bone-dust will raise a better crop of turnips than lime alone; but boney-dust, on what is leaver, can be used without loss of virtue of use in raising the first crop of turnips. They should therefore be used sparingly, unless they can be obtained very cheap, and only on light loams or sands. Mixed with ashes in a heap, and allowed to heat, they become much more efficacious.

But after all the expense of clearing the land and preparing it for cultivation, it may yet be of such a quality as to dishearten the improver. We shall take an example from two kinds of soil very common in all the northern parts of Europe. The one is generally called sandy heath soil, the other is peat or moor, both quite unproductive till they are improved; and yet vast tracts of both have been brought into cultivation, and are covered with a rich harvest, in spite of their natural barrenness. Sir Humphry Davy declared, on analysis, that the soil of Bagshot Heath, in its natural state, was the most barren soil in England; yet great portions of this barren soil are now covered with thriving plantations, interspersed with green fields. The methods used to bring this land into cultivation will serve as an example for all similar soils. The surface soil of the heath consists of sand, gravel, and light loam, strongly impregnated with a yellow carbonate and sulphate of iron; the subsoil is generally a stiffer loam. The water which percolates the upper stratum descends a portion of the iron by means of the carbonic acid, and this iron, mixed with earth, is slowly deposited in a thin layer on the impervious subsoil, where it takes a hard crystallized form, called the iron pan, absolutely impervious to moisture; and until this pan be broken, no culture can take place. Trenching, therefore, is absolutely necessary wherever this pan exists at a small depth under the surface. A part of the subsoil being brought to the surface greatly improves the texture of the soil, and then the salts of iron must be decomposed and the acid neutralized by lime or chalk. Manure is now the principal object, and, if it cannot be obtained from neighbouring towns, or from old cultivated lands near at hand, the progress will be very slow. Planting trees, especially the fir and the larch, is then the only resource; but where manure and calcareous earth, either in the form of chalk, marl, or lime, can be obtained, the land may be cultivated and improved in the following manner. Lay on a good coating of chalk or marl before winter, and plough it in with a shallow furrow. In spring, plough again deeper, mixing the calcareous earth as much as possible with the soil by frequent harrowings; all the dung that can have been collected must be laid on and ploughed in by the end of May. In June, drill turnpseed with bone-dust, if possible, in rows not too distant; say twelve inches, if the soil is very poor, but wider in proportion as it is of better quality. These, as soon as they are in the rough leaf, must be carefully hoed till they nearly cover the ground. They must be fed off by sheep in the following winter and spring: the dung of the sheep must be ploughed in, and if possible, a lot of barley straw, as soon as possible after the sheep are removed. The quality of the first crop may be decided whether a crop if corn may be ventured on in the second year, in which case tattspouts are found the best suited to such land; but, if the turnips were not a very good crop, then, crop of wheat, or for the sake of variety, to be again fed off, will be much better husbandry; and until the soil shows an evident improvement in colour and texture, the most that can be expected is a crop of turnips and oats alternately. As soon as the ground has, by frequent tillage and manuring, become of a uniform and somewhat mellow texture, the first opportunity must be taken to lay it down with white clover and perennial grasses, and let it remain in pasture two or three years without mowing. When it is next broken up, it may be treated as an old cultivated land of a similar quality usually is.

If a well-cultivated farm is near, and a sufficient supply of manure can be raised upon it, by converting a portion of it into arficial meadows, or keeping it under green crops, so that an increased quantity of stock may be maintained, the land to be improved may be soon brought into a productive state, without robbing the old land to make the new, as is too often done. Nothing has so rapid an effect in removing sterility as the free use of the urine of cattle, and the drainage of dunghills, collected and allowed to ferment in covered tanks; but this can only be obtained by keeping cattle stalled and fed with provender brought to them. This is the great secret of the fertility of the once poor, barren heaths of Flanders. In different situations it may not be practicable to provide sufficient manure, at least at first, and the progress will be much slower. In this
case the seeds of rye, teas, beans, buck-wheat, and other
succulent plants, must be sown, and the crop ploughed
in when in blossom: potatoes and other roots may be
raised, to be consumed by cattle and swine, in abodes built for
the purpose near at hand, and every means that ingenuity can
devises must be resorted to in order to make as much manure
as possible. This is not to be applied to the land at once, but
mixed up in beets with sods and parings of the surface,
with the ashes of roots burned, and with lime, and when
thoroughly incorporated by frequent turning, mixing, and
renewed applications, it may be placed upon the surface to
be put on the land at once, as far as it will go: for one
acre brought into a tolerably fertile state will repay the cost
better than many imperfectly improved; and by proceeding
gradually in this way, more land will be brought into a state
fit for crops in about five years, and at less expense, than could have been done by beginning with too
much at first.

When an attempt is made to bring a large extent of very
poor sandy soil into cultivation at once, as may be the case
where labour is cheap, it would be impossible to procure the
quantity of manure to insure any return for the outlay. In that case there is a simple remedy, which,
in the end, is very advantageous: it is to sow the seeds of
burnet, which will remain in the course of two or three years, not only of some value to
for cut for fuel for boilers, but in the meantime have greatly
improved the nature of the soil, especially that which has
been trenched, by the quantity of vegetable substance con-
tained in the stems and also in the leaves and tender stems which have decayed and dropped during the
three years that the land has been covered with these plants.
This, at all events, will more than repay the interest of the
money expended in trenching, and the future improvement will make more profit of the land than the cost of
manuring and treatment as is recommended above when first broken up.
This practice also is taken from our sagacious and industrious
neighbours the Flemish.

When a tract of poor heath, or sandy loam, is applicable to every kind of unproductive soil, difference
of composition and texture being kept in view. Poor, wet,
still lands must be divided by deep ditches, ploughed in
high ridges, and be as much as possible exposed to the
wind and rain; instead of turning, grasses must be sown,
such as suit the soil. Paring and burning the surface are
here generally useful in the first instance, and may some-
times be repeated with advantage. Such soils, in the end,
are best calculated for permanent meadows; but it is essen-
tial that they should be improved with turf and lime, by tile
manuring, and by clearing them of all the roots and seeds of
weeds before they are laid down with grass-seeds, which
must therefore be done with a first crop after a clean fallow,
or, which is still better, without any crop of corn at all,
keeping it for a year or two. Inoculating grass is by far the
readiest way of producing a permanent stand. [See Grass
and Inoculation.]

There is another kind of barren soil, which extends over
large tracts in some northern climates, called, by most of its
name of peat, or moor. This being chiefly composed of vegetable
matter, is too loose in its texture for any vigorous vegetation.
But, besides, it is of an insoluble, astrignent nature, highly
unfit for the increase and nourishment of plants. Moors being
naturally situated in valleys between mountains, draining
the superfluous water is the first and indispensable operation
before any improvement of them can be thought of. The
next thing is to compress the soft soil into a more solid
state; and for this purpose any kind of earth or gravel is
useful. When manure or turf is placed over them, it must
be burned in sods, and the ashes will greatly improve the
remains. Lime, chalk, marl, or shells, are the specific
correctors of the quality and texture. By the help of these,
the soft mass, which can only be worked in the spring, may
be burned in sods, and gradually condened, a more
compact soil is formed, which soon bears the tread of men
and even cattle; and then, properly speaking, the culture
has been said of it.

The absorption of too much moisture by the still unconsoli-
dated mass, which is effected by cutting numerous and
depth ditches in every direction, with proper outlets kept
carefully open; at the same time guarding against the opposite
effect of too dry, at least not boggv at the foot below the surface,
it will be in the best state to improve and consolidate. It
is surprising how soon a peat moor, of little more solubility than a bog, can be rendered perfectly firm, and bear even loaded
waggons on its surface. It often happens, where there is a
command of good water which can be brought above the
level of the old peat moss, that it may be converted into a
most productive water-meadow. All that is required is
that the upper soil, artificially produced, be not broken
through, and that the bottom be well drained.

We have only given brief hints and outlines to those
who may be inclined to reside in countries which have
hitherto been barren. The certain cost and probable
improvement must be well calculated and compared to avoid
disappointment and loss. As these depend on the peculiar
circumstances of each case, it is impossible to give a general idea of what may be the
most advantageous with his particular land.

Many a fortunate, no doubt, has been impeded by unkind
speculations and too sanguine hopes; but, without this spirit of
improvement, few soils, except the very richest, would ever
have been cultivated, until the wants of a populous nation
granted the food of the earth on the level of those of inferior quality. It is in the tillage of very poor
soils, chiefly, that those improvements in the teneumal
and operations of husbandry have been suggested and
recommended, without which a great portion of the soil of the British de-
notes would not have been cultivated to the advantage of the
mass. These soils could only be cultivated to any advantage, much less afford rent to a
proprietor, or contributions to the expenses of the nation.

The unproductive state of waste lands in many populous
countries has suggested the employment and hire of
friends on their improvement, and it has been thought a
more enlightened charity to expend the money, which
would otherwise be given in simple temporary relief, in such
a manner as to make the labour of paupers available to
their future comfort and independence. In some places portions of land have been given absolutely, or at a
leasehold rent, to paupers, in order that they might cultivate and gradually
improve them; and where the soil is naturally good, and
requires only to be worked and tilled, the plan has been st
abh and successful. But it is not always that the land
only be improved by artificial manures and expensive
operations, it is folly to expect this to be done by labour
alone, without considerable capital; and neither the judicious
managers of public funds, nor prudent speculators on
such accounts as these, can afford to give such an
encouragement as they would. The chance and with the hope that a naturally indolent and dis-
class of men shall make it productive either to themselves
or those who have advanced the funds.

The establishment of a pauper colony at Frederikshavn,
in the province of Drenthe in Holland, noticed by Mr. Jordon,
and of which a short account may be found in the Com-
passion to the Almshouse for 1829, seems to contradict the
opinion; but until we shall have a little longer experience
of the working of the plan, we cannot consider this ex-
perience as decisive. The colony must necessarily increase
the population, which is already redundant, and, at the
end, produce a serenade of paupers.*

A portion of good land, let at a fair rent to a poor tenant.
If there is a little profit, the work will be well done, but in the presence of a cow or pigs, and provisions, until the land produces food for the family, to be repaid by instalments, will overbear much less expenditure, and will in general be attended with less loss
than the improvement of poor sands and heaths, however judiciously they may be worked, and the ground converted into a garden will increase much more rapidly, in an equal amount of work, and may be more easily done in three times the labour.

It is not to be supposed that the improvement of the soils
and the poor is not, but the same labour on more

* Since writing the above observations, we understand that the
benefit colony at Frederikshavn, by the report of one of those
who have examined it, has been found to be of more advantage
than ascribed by those who first proposed their establishment. There is a report on
the subject.
It is near increasing manufactures, where land acquires a greater value, that barren land is soon converted into fertile. In some parts of the British isles is most profitable, and the neighbourhoods of Aberdeen, Birmingham, Manchester, and Sheffield, among many others, furnish examples of the greatest industry and perseverance in recovering the natural barrenness of the soil. Even Chat Moss, the sandhills near Manchester, was lately nothing but a quaking body of peat to a great depth, is beginning to be covered with green fields and farm buildings, in consequence of the establishment of the Manchester and Liverpool railway. To those engaged in these improvements this article may not be without interest. We refer for further information to the communications, surveys, and reports made to the Board of Agriculture, and to various articles in the "Farmer's Magazine," and "Agriculturist," and "Agricultural Journal." In order to encourage the cultivation of poor wastes, and at the same time to secure the right to tithes, when the land should have been fully improved, an Act of Parliament was passed in the reign of Edward III. (2 & 3 Edw. VI. c. 13), by which barren and waste land brought into cultivation, and converted into arable land or meadow, shall pay tithes of corn and hay after seven years from the first cultivation, which seems to release such lands from all claims for tithes during seven years, after which time the land shall be punished in its waste state: viz., that of wool, lamb, and the milk or yield of cattle depastured on it. But by the interpretation given to the words of the statute in several important decisions, it is only the very poorest soils, which will produce nothing without the assistance of labor, that are exempted, such as are called "situs sterile," which have enjoyed this exception; but woodland grubbed up, commons inclosed, fens drained, and lands recovered from the sea by embankments, at a great expense, are usually protected by a special act of parliament obtained for the purpose, and are subject to a payment of one-tenth by the owner, or an equivalent composition, from the first year that any crop is produced upon them.

BAR, Giraldis DE, or SYLVESTER GIRAldus, was descended from an illustrious lineage. He was the fourth son of William de Barri, by Angharath, daughter of Nesta, daughter of Rhys ap Theodor, Prince of South Wales, and was born in about 1145, at the castle of Manordee, in Pembroke-shire. Being a younger brother, and intended for the church, he was sent to St. David's, where his uncle, David Fitzgerald, at that time bishop of the see, undertook the care of his education. Giraldis, in the history of his own life, acknowledges that in the commencement of his professional life, his uncle and his master demonstrated so sharply with him that he became diligent, and soon surpassed his fellow-students. When twenty years of age he was sent to the University of Paris, and there, in the course of a year, he acquired great fame for his skill in rhetoric and the belles-lettres. On his return to England, about 1172, he entered into holy orders, and obtained preferment both in England and Wales. He now devoted his whole mind to promote the interests of the church. Finding that the Welsh were very reluctant in paying tithes of wool and cheese (more particularly in the districts of Pembroke and Cardigan), he applied to Richard, Archbishop of Canterbury, and obtained the appointment of legate in Wales to rectify those and other abuses. He executed this commission with great spirit and success. He likewise attempted to reform the morals of the clergy, and was peculiarly severe against all priests who had wives; these he called concubines, and unjustly accused them of incest. He expelled the canons of Brecknock, who opposed his measures on this account, was at first suspended, and afterwards deprived, a sufficient maintenance only being assigned to him from his former preferment, which was bestowed upon the officious legate.

On the death of Stephen of Pembrook, the canons of St. David's met in council, and, after a long debate, elected Giraldis to be his successor; but the archdeacon thinking the election made too hastily, and not according to the usual forms, went on the following day to the chapter, and, attacking the conduct of the friends of this election, his reasons were these: that the necessity of an application had not been previously made to the king or his justiciary for the royal assent. The chapter, however, persisted in their choice, which so highly displeased King Henry II. that he threatened to dispossess them of their lands and revenues. The king summoned a council, and submitted the case to the consideration of Richard, Archbishop of Canterbury, and the suffragan bishops, desiring them to recommend a fit person to fill the vacant see. The archbishop proposed Giraldis as a man of learning and spirit, but the king objected: he considered that it was not expedient to elect too upright and active a person to the vacant see, that the see of St. David's was the only one to which he would not ascend, and to almost all the greater families of Wales, generally to the detriment of his crown. Peter de Leis, a Cluny-monk of Wenlock in Shropshire, was, in consequence, chosen Bishop of St. David's; and Giraldis relieved his disappointment by being consecrated to the see of Paris, and prosecuting his studies chiefly in civil and canon law, the professorship of which last, in that university, was offered to him in 1179. He returned home in 1180, and, proceeding to his archdeaconry, found the diocese of St. David's in confusion. Peter de Leis had quarrelled with the canons and inhabitants, and was driven from his see, the administration of which was now committed by the Archbishop of Canterbury to Giraldis. He held it three or four years, when the sees was restored.

About the year 1184 Giraldis was induced by King Henry II. to reside at court; soon after which he was sent as a pacificator to Wales. Having fulfilled his commission with the king's satisfaction, he returned to court, was made one of the royal council, but refused the bishopric of London, a preferment, which were not fulfilled, probably because Giraldis desired to have it in Wales.

In 1183 he was appointed preceptor to Prince John, whom he accompanied on his distant expedition, and who, after the death of King Richard, selected him for his secretary. But the prince using youthful counsels instead of those of the old adventurers who were best acquainted with the affairs of the country, returned after a residence of some months, leaving Giraldis behind, who continued there to collect and digest the materials on which he was to work on the topography and conquest of Ireland. Previous to leaving that country the prince offered Giraldis the Irish bishoprics of Ferns and Loughlin, and on his refusing each one of them, presented him with the bishopric of Cashel. He consolidated the two, but this he also refused. Sir Richard Hoare says he likewise refused at this or a subsequent period the archbishopric of Cashel. In 1187 he returned to England, when, having finished his work on the topography of Ireland, he read its three divisions (dictation) on three separate days, before public audiences in the University of Oxford. On the first day he entertained all the poor of the town; on the next day the doctors and scholars of fame and reputation; on the third day the scholars of a lower rank, but rich. A year after this he became vacate in 1199, when he was unanimously elected to it by the chapter. Yet here he was again disappointed by the opposition of Hubert, Archbishop of Canterbury, upon the same grounds which had led to his resignation on former occasions by King Henry. He thus became involved in a contest which lasted five years, during which he took three journeys to Rome, and was at last defeated, the pope passing a definitive sentence, and declaring his election null. Soon after this Giraldis resigned his archdeaconry in favour of Philip, the youngest son of his brother, Philip de Barri, for whom he always retained the kindest affection. Sir R. C. Hoare says, that besides the archdeaconry of Brecknock and Pembroke and of Mathren, with which Giraldis resigned to his nephew, he was possessed of the livings of Nangle and Tenby in the same county: he was also prebendary of the church of Hereford, and held the living of Chesterton, in Oxfordshire, to which last he was, in his 80 years, appointed. On The 7th of October, in the reign of King Henry II.
Giraldus passed the last seventeen years of his life in study, revising his former literary works and composing others, of which he has himself given an account in the preface to the copy of the translation he received once more an offer of the bishopric of St. David's, and would have met with no opposition from the court; but from the dishonourable terms on which it was precluded, he refused the ecclesiastical dignity which had so long been the object of his entreaties and wishes.

He died at St. David's, in the 74th year of his age, and was buried in the cathedral church, where his effigy still remains upon an altar tomb beneath an ornamental arch.

His works are large in extent, and of great importance. He is said to have written very much in what is called his 'person; mild in his manners and affable in his conversation; zealous, active, and undaunted in maintaining the rights and dignities of his church; moral in his character and orthodox in his principles; charitable and disinterested, though superstitious;—such was Giraldus. And in whatever point of view we examine the character of this extraordinary man, whether as a scholar, a patriot, or a divine, we may justly consider him as one of the brightest ornaments that adorned the annals of the twelfth century.' As an historian, however, he was full of credulity, and as a man, as his works prove, one of the vainest upon record.

Giraldus has himself given us a catalogue of his works, and a brief account of some of his actions, both printed by Wharton. Other lists will be found in Fabricius's Bibliotheca Med. et Inf. Latinitatis, edit. Patav. 140. 1751. tom. iii. p. 62, and in the notes to his life in the Biogr. Britannica, edit. 1778, vol. i. pp. 640, 642, 644. Sir Richard Brownell's edition of the life and writings is the most perfect and magnificent edition of his works as exist in the several libraries in the British Museum, in the Archæological Library at Lambeth, at Bene't (Corpus Christi) College, and in the public library at Cambridge, and in all the libraries of the world.


BARRICADE, a military term for a fence formed in haste with baskets of earth, trees, palisades, or the like, to create obstruction, and preserve an army from the shot or assault of an enemy. Carriages, wagons, &c., are sometimes made use of for the same purpose. The aim of the back is kept by a deep hedge or horse and foot for some time. In regular barricades, the most usual materials consist of poles or stakes, crossed with battons, and shod with iron at the feet, usually set up in perpendicular lines. On the sides of a ship, barricade means a strong wooden rail supported by stanchions extending across the foremost part of the quarter-deck. The upper part, which contains a double rope-netting, above the rail, is studded with full hammocks, to intercept the motion, and prevent the execution of small shot in action.
to the Spanish succession, which was terminated by the peace of Utrecht in 1713. The Emperor of Germany refused to accept the articles of the treaty so far as they affected him; and in 1714 he concluded a treaty of peace with France, by which the Spanish Low Countries were ceded to France. Afterward, when above thirteen months had been spent in negotiation, he ratified the Treaty of the Baroner on the 15th November, 1715. The general tenor of the previous negotiations to which we have alluded prevails in the articles of this treaty, which are too long to be here inserted; but they give one reason for the consent of the Emperor, as had been previously arranged. Above ten thousand French and Austrian troops should garrison certain towns in the Austrian Low Countries with their troops. (Koch, Traité de Paix; L'Art de Gagner les Délégations.)

BARRING-OUT, a practice formerly common in schools, and still practised in some schools in the north of England. Dr. Johnson, in his Life of Addison, says, that in 1683, in the beginning of Addison's twelfth year, 'his father being made dean of Lichfield, naturally carried his family to his new residence, and he believed placed him for some time, probably not long, under Mr. Shaw, then master of the school at Lichfield, father of the late Dr. Peter Shaw. Of this interval his biographers have given no account, and I know it only by a story of barring-out, told me when I was a boy, by Andrew Corbet of Stony Stratford, and handed down to me by my uncle from Mr. Pigot, his uncle.' The practice of barring-out, he adds, 'was a savage license practised in many schools at the end of the last century, by which the boys, when the periodical vacation was met with, were permitted to move about in a sort of liberty, sometimes days before the time of regular recess, took possession of the school, of which they barred the doors, and bade their master defiance from the windows. It is not easy to suppose that on such occasions the master would do more than shake his head; yet perhaps it is probable, he often struggled hard to force or surprise the garrison. The master, when Pigot was a schoolboy, was barred out at Lichfield, and the whole operation, as he said, was planned and conducted by Addison. (Johnson's Works, Murray's ed., vol. iii. p. 340.)

Brand, in his Popular Antiquities, vol. i. pp. 346, 347, speaks of the custom as still existing in the grammar-school of the city of Durham, and at the school at Houghton-le-Spade.

In the statutes of Witton School, near Northwick, in Cheshire, founded by Sir John Deane, A.D. 1558, the observance of this practice by the scholars is directed. (See Carlile's Description of Endowed Grammar Schools, vol. i. p. 316.)

BARRING, THE HONOURABLE DAINES, a Roman Catholic, lawyer, and naturalist, was the fourth son of John Daines, first Viscount Barrington, well known from his connexion with the Harborough lottery (on account of which he was expelled the House of Commons) and the author of the Miscellanea Sacra and various other works. His mother was a daughter of Charles, first Viscount Daines. Daines Barrington was born in 1727. After having concluded his course of general education at Oxford, he entered as a student at the Inner Temple, and was called to the bar in Hilary Term, 1749. Though he never after that gave himself the ocular education or the superintendence of a lawyer, his mode of life, and the knowledge he possessed, his friendship with the most eminent members of the bar and the most powerful members of the Pelham Administration, by means of which early in life he obtained successively several lucrative offices. In 1751 he became Marshal of the Court of Chancery and Recorder of Bristol, and in 1753 appointed secretary for the affairs of Greenwich Hospital. In 1753 he appears for a short time to have travelled the Oxford circuit, and was junior counsel for the prosecution on the well-known trial of Miss Blandy, for the murder of her sister. In the same year, on the death of the incumbent, he was appointed secretary for Greenwich Hospital; he was elected Recorder of Bristol; and in 1757 was made a puisne Welsh judge. He presided with Lord Kenyon at the great sessions for Denbighshire, in 1758, when the trial of the renegades of St. Asaph for a seditious libel was to have taken place, but was put off on the ground of attempts to

BARRISTER, The etymology of this word has been variously given by different authors, and it would be impossible to enumerate the fanciful derivations which have been assigned to it. But, though the precise etymology of the term is uncertain, there is little doubt that it arose from the local arrangement of the halls of the different Inns of Court, which, for several centuries, have composed in England a kind of university for the education of advocates. (See Inns of Court.)
The degree of utter barrister, though it gave rank and precedence in the Inns of Court, and placed the individual in a class from which none could rise, was always taken, did not originally constitute any authority to plead in courts of justice. In the old reports of the proceedings of courts, the term is wholly unknown; serjeants and apprentices at law, who are supposed by Dugdale to be the same persons, being thus described. In later books, in the time of Stow, however, who wrote in the latter part of Elizabeth's reign, it is clear that utter barristers were entitled to act as advocates, as he expressly says that persons called to that degree are 'servants, attorneys, and serjeants at law', and as such they are described by Grose in the polite books. The exact course of legal education pursued at the Inns of Court before the Commonwealth is extremely uncertain, but it appears to have consisted almost entirely of the study of readings and mootings, which have been described by several ancient writers. The readings in the superior or larger houses were thus conducted:—The bencners annually chose from their own body two readers, whose duty it was to read openly to the society in their public hall, at least twice in the year. On these occasions, which were observed with great solemnity, the reader selected some statute which he made the subject of formal examination and discussion. He first recited the doubts and questions which had arisen, the bar generally arising under the several clauses of the statute, and then briefly declared his own judgment upon them. The questions thus stated were then debated by the utter barristers present with the reader, after which the judges and serjeants, several of whom were present, pronounced their judgment upon the points which had been raised. Readings of this kind were often published, and it is to this practice of the Inns of Court that we are indebted for some of the most profound juridical arguments in our language, such as Lalius's reading on the Statute of Sowers, and Lord Bacon's on the Statute of Uses.

The process of mootings in the Inns of Court differed considerably from reading, though the general object of both was the same. On these occasions, the reader presented the law, the point in dispute, and the cases which might arise under the several clauses of the statute, and the mooters, as they were called, then attempted to reply to the questions of the mooters. The mootings were held in the open hall, and each side of the bench table were two inner barristers, who declared in law French some kind of action, previously devised by them, and which always contained some nice and doubtful points of law, the one stating the case for the plaintiff, and the other the case for the defendant. The points of law arising in this fictitious case were then argued by two utter barristers, after which the reader and the barristers closed the proceeding by laying their arguments with some seriatim. These exercises appear to have lost much of their utility in the time of Lord Coke, who, in the First Institute, p. 280, e, praises the ancient readings, but says that the modern performances were of no authority. Roger North in his Register of the Inns of Court, says: 'One of the important parts of the reading was to prevent persons who read in the Temple according to the ancient spirit of the institution. It is, however, beyond all doubt, that, as far back as we have any distinct memorials, all advocates must have passed through the mode of preparation adopted in the Inns of Court.

The serjeants, who, before the allowance of utter barristers to plead in courts, appear to have been the only advocates, were called from the Court of the Inns of Court by the king's writ, which was only issued at the discretion of the crown, and generally as a matter of favour; and indeed this continues to be the case at the present day. In process of time it became convenient and necessary to enable utter barristers to plead at common law. Some time after they began to plead as advocates in the superior courts, the terms upon which they were called to the bar, and allowed to plead, were prescribed by the Privy Council. Thus an order of council, relating to the Inns of Court, in the year 1570, for this purpose, dated Easter Term, 1574, and signed by Sir Nicholas Bacon as lord keeper, and several lords of council, directs that: none to be called to the utter bar but by the ordinary council of the House; and therein, in their ordinary council, in the time coming, also that there shall be utter barristers without having performed a certain number of

mootings; also, that none shall be admitted to plead in any of the courts at Westminster, or to sign pleadings, or to continue that in time of exercises of learning; and, lastly, none shall plead before justices unless allowed to the courts of Westminster, or allowed by the justices of assize. (See Dugdale's Origines Juridicæ, Appendix, p. 144.) The freedom of the bar is greatly increased by the Privy Council with the arrangements of the Inns of Court respecting calls to the bar. In the reigns of James I and Charles I, the judges and barristers of the superior courts, in general, may be called to the bar at Westminster, and the authority to call persons to the degree of barrister-at-law has been tacitly relinquished to the members of the different societies, and is now considered to be devolved to them from the judges of the superior courts. In conformity with this arrangement, the call to the bar has been, in the several cases of a rejection of applications to be called to the bar which have lately happened, to appeal to the judges, who either confirm or reverse the decisions of the bencners. From the history of the system, however, we would appear as if if in these cases there was no delegated authority from the crown.

Previously to a general arrangement made by all the Inns of Court in 1762, the qualifications required for being called to the bar were regulated by general rules as observed at the different houses. In the first year of the reign of James I, it was solemnly ordered by a regulation signed by Sir Edward Coke, Sir Francis Bacon and other distinguished names, that no person should be admitted into any of the Inns of Court, except of the proper name, except such as have been informed of the law. Other regulations were occasionally made, as to the lengths of standing required, and the number of persons to be called at each time, which were often absurd and inconsistent with each other. The greatest inconvenience, however, was the absence of uniformity in the practice of the three Inns, as to the qualifications which they respectively required. To remedy this evil, it was determined, in 1742, to the concurrence of all the Inns of Court, to adopt a common rule as to the qualifications in this respect; and at the present day, the general rule is as follows. The Inns of Court is, that a person, in order to enable himself to be called to the bar, must be twenty-one years of age, have kept twelve terms, and have been for five years at the least, a member of the society. If he be the holder of the Bachelor of Arts of either of the English universities of Trinity College, Dublin, it is sufficient if he has kept twelve terms and has been three years a member of the Inns to which he desires to be called to the bar. By order of the members of the Inner Temple, 1829, every person proposed for admission to that house must, previously to his admission, undergo an examination by two barristers appointed by the bench, who shall inquire whether the individual is proficient in 'classical attainments and the general rules of legal education.' This regulation has not been adopted at any of the other three Inns of Court. The expression of being called to the bar amounts to between 250 and 1500 of the three terms common and the admission examination.

In order to qualify a person for the bar in Ireland, there is a necessity that he should have kept eight terms at one of the four Inns of Court in London, and nine terms at the King's Inn in Dublin. (See Council: Inns of Court.)

BARRISTER. In Scotland, there was a (for public Notaries) till recent times, but one order of law practitioners. They had various names,—practitioner, advocate, prosecutor, forespeaker; of whom the two former were the most frequent, and the first is to the day of the creation of the advocates of the college of justice, the advocate of the church of Scotland, and the fiscals and practitioners of the local courts. They were at once the chamber-counsel, and the attorney of their clients: and, in the common law courts, at least, a practitioner was entitled to the title of solicitor, which, being limited to the Courts of Session and the courts, as unknown in the Court of Justiciary, where to this day, both at Edinburgh, and on the crescent, all plead at the bar. We see afterwards (p. 92) in the modern a new class of law practitioners under the name of Advocate, acting below the bar, but distinct from the Commons of the
court were constantly proclaimed, and they were ordered to be extruded from the court; and we also find that, by the Society in V. I., the inversion of the College of Justice, and Advocates protest in the Chapel Royal here at Rosslyn, in his lawyer-gown and four-nooked cap (as lawyers used to pass their tryals in the Universities abroad), to the great applause of the king and all present; after which he was removed by the Court. July 13th, 1572. And so, when King Charles removed Oliphant, K.A., from the bench, and issued an ordinance that no officer of state should for the future have the place of an ordinary lord there, the Court of Session passed an act of Session, according to the urging of the then Lord Justice of the Inner House, Hope, K.A., to plead covered. This, it is indeed said, was a grant given to Hope personally, in consideration of his having a son, or as some say two sons, and others, not having such one or two, roundly assert three sons on the bench (which last version of the story of his character similar, Encyclop. Brit., voces Advocate, Lord or King's), who, like the other judges, sat with his hat on. But the fact is, Hope had no son on the bench when the act of Sederunt referred to was passed, nor for six years afterwards; and the acknowledgment then made was renewed to Sir Thomas Nicolson, K.A., with other known privileges of the office of King's Advocate. We therefore take the act of Sederunt to contain recognition of a right common to the whole faculty, not confided to the office of Advocate as usual to the Advocates and procurators, and are usually styled Advocates in Aberdeenshire. These, and the procurators of the other local courts, act, as of old, in every branch of juridical business.

The Advocates of the College do, in the face of the Bar of Scotland, as all the other classes of law practitioners in Scotland are, to the court which admits them, but are entitled to act in every court in the kingdom (except where specially excluded by statute), and they go on recruiting new members until the number of Advocates and procurators, and are usually styled Advocates in Aberdeenshire. These, and the procurators of the other local courts, act, as of old, in every branch of juridical business.

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Till the institution of the Court of Session in the beginning of the sixteenth century, no course of legal instruction or exhibition of legal learning appears to have been required to qualify for the legal profession in Scotland. It was still later before any legal qualification was necessary for the Scottish bench; and so it remained for many years. The President of the Inner House, the President of the Court of Session, the President of the Court of Session, had been formerly the highest judicial office in the kingdom, but is now a sinecure, and its duties are discharged by the Lord Justice Clerk, who, though since the union a Lord of Session, is not it seems necessary so, nor even of the number of the Lord Advocate, the Office of the President of the Court of Session, the President of the Court of Session, has been transferred to the Inner House much more than a century and a half, before the Office of the President of the Court of Session, the President of the Court of Session, was transferred to the Inner House.

If we except the Dean, also, there are no degrees at the Scottish bar: patents of precedence and pre-eminence are unknown; and the only counsel who in the Court of Session remains within the bar, are the King's Advocate and Solicitor General, of whom has been distinguished in the Inner House much more than a century, though, in the Outer House, he and the depute-advocates have had the privilege since the Restoration. The faculty of advocates form a part of the College of Justice; which is composed of the judges, advocates, agents, and other officers of the superior courts; but, so far as the records show, there never was any commoning together, as in other colleges; and each of the above bodies is, as to internal arrangements, independent of the faculty. The college is said to consist of about 3500; of which upwards of 2500 is deposited before being taken on the civil law examination.

BARROCCIO, FEDERIGO, was the son of an eminent sculptor, and born at Urbino, in 1526. His first master was Battista Verrocchio, about the middle of the seventeenth century, when he went to Rome, where he practised under the auspices of Cardinal della Rovere, whose palace he ornamented with several frescoes. He returned to his native town after an absence of four years, and gave proof in a picture of St. Margaret, painted for the Confraternity of the Holy Sacrament, of the vast improvement that he had made in his art during his residence in the imperial city. This, and other works, procured him such a reputation, that he received an invitation from Pope Pius X. to assist in the embellishments of the Belvedere palace, on which work his part was also engaged. Here he executed the Annunciation in fresco on one of the ceilings, and a picture of the Holy Virgin with the infant Saviour, with delight. Having returned to Urbino, and contributed to the Cathedral of St. Lorenzo and Perugia an altar-piece of The Taking Down from the Cross. During the pontificate of Gregory XIII., Barroccio again visited Rome, where he ornamented the Chamber of the Chiesa della Minerva; also, for the Chiesa Nuova, the Visitation of the Virgin Mary to Elisabeth, and the Presentation in the Temple. These two last are considered to be his finest performances. His style of chiaroscuro and the effect was formed on that of Correggio, but it is the usual fate of imitators to transmit an exaggeration of some prominent peculiarity, rather than the intrinsic excellence of their models. Thus, in Barroccio's faces we recognize a style of chiaroscuro similar to those of Correggio; but that which is the hands of the
latter artist was moulded into beauty, strikes us in the
works of his imitator as merely something odd and per
manent. The same observation can be applied to his current; the tints of
Cortegano are in the highest degree pure, simple, and
harmonious; while those of Barroco, however meant to
remodel them, are overcharged and artificial. This is
strikingly apparent in the extremities of his figures, which
are brightened to a degree of offensive mannerism;
his flesh tones generally appear to be a greenish sub
stratum surrounded with pink. These defects, perhaps,
are chiefly chargeable against his smaller performances,
and there is a strong probability that they form a picture of the Holy
Furniture in the British National Gallery. His large works are
excellent in that quality of art called impasto exhibiting
a richness of surface which Sir Joshua Reynolds has greatly
commended, and did not disdain to imitate. There is in
the Virgin’s picture by Barroco of the size of life, repre
senting a female pilgrim overtaken by a tempest on the top
of a mountain, painted with a breadth and simplicity, both
in respect to colouring and design, which would have ranked
Barroco among the highest; practicalists in art, had all
their works been executed in a similar spirit. Barroco died at
Urbino, in 1612. aged eighty-four. He sometimes handled
the graver, and has left the following plates, executed with
great spirit and correctness, although somewhat deficient in
delicacy: The Virgin in the Clouds with the Infant Jesus, marked P. B. V. F.; The Virgin
holding the Infant Saviour, a small plate, the lower part un
finished.

BARROS, LE, a district deriving its name from the
town of Bar-sur-Ognon, otherwise Bar-le-Duc, included in
most maps in the former province of Lorraine.
Frederick, Duke of Mosellana or Upper Lorraine, brother
in-law to Louis XIII, having taken the fortress of Bar,
formed a domain, which he attached to it, from part of
the lands of the abbey of St. Mihiel, of which he had rendered
himself master. His authority over the territory of Mosel
land, Lorraine, and neighboring principalities, was so
assured and so formidable, that the possession of this
province succeeded him in it; but the domain attached to the
fortress of Bar was hereditary, and it came by descent to
Thierry, who first bore the title of Count of Bar. He died
just at the commencement of the twelfth century. Soon
after this time the Emperors of Germany claimed the dis
trict of Barrois as being within the limits of their dominions,
which included Lorraine; and in 1334 the Emperor
Charles V. erected the district of Pont-a-Mousson (which
appears to have been united by marriage in the hands of
France) into a principality, with the designation of count,
which was confirmed to his son, who succeeded him in it; but
he does not appear to have had any just
claim to superiority over the Counts of Bar. In 1357 the
 possessor of the territory of Bar, Robert, who had married
the daughter of John, King of France, styles himself duke;
but it is impossible to say whether this title had been
recognized or not. The future of this branch of the
royal house was to be decided by a duel at the battle of
Poitiers, fought by the French again in the war which Louis XIV. main
tained against the empire.

By the successive treaties of Vienna in 1735, 1736,
and 1748, the Electorate of Bavaria, was reduced to Bohemia, and
Hungary, the exiled King of Poland, with restoration
to the crown of France, to which, upon the death of that Prince, it
accordingly fell.

But Le Barros, in the extent in which we shall now speak
of it, is much more extended than the above mentioned domains of the
Dukes of Bar. These constituted what was termed Le Barros Moument, and
consisted of 20 towns, villages, or hamlets: there was besides
the district of Le Barros non-moument, which con

- a moument is a loose applied to a field held in feudal dependences.
India, to the year 1589; but before this, Diego Cortés, historiographer of India to Philip II, and Philip III, and taken up the continuation of Barrow’s first three Decades, and had himself published a fourth Decade, which he followed up with a fifth, and so on till the eighth, which comes down to the year 1571. Cortés had extended his work to the twelfth Decade, which came down to the year 1600, but of his last four Decades only fragments have been published. The rest remain inédit, and the MS. of one, the eleventh, is said to be lost. The best edition of Barrow’s work is that of 1786, from the royal press, Lisbon, 9 vols. 8vo., edited by the Manuel Sário de Sequeira, and with a copious index. Cortés’s continuation, as far as the eighth Decade, was published also at the same press in eight vols. 8vo., 1778-1783, with a life of Cortés. Barrow is considered by the Portuguese as their best historian, both for the matter of his work and for the form of his composition. His style is much admired, and his language, considered as a model of Portuguese prose-writing; the narrative is simple and unpretending. Barrow died at his estate of Altam, near Pombal, in 1710. He is known as a man of high honour and moral character both by his biographer, Manoel de Faria, above-mentioned, and by Nicolau Antonio in his Bibliotheca Hispana, vol. 1, p. 498. He wrote also some moral dialogues and other minor works.

Barrow, Isaac. The materials for the personal life of Barrow may be found in the Biographia Britannica, with full references to authorities, particularly to Ward’s John of the Gresham Professors, also in Martin’s Biographia Britannica. The portrait is by Abraham Hill, prefixed to Tillotson’s edition of Barrow’s works. In this part we have followed the first-mentioned work in the facts and anecdotes cited.

Barrow was the son of Thomas Barrow, linen draper to Charles I, and descended of a respectable Suffolk family. His father’s brother, named also Isaac Barrow, was fellow of Peterhouse College, Cambridge, and ejected from thence by the Presbyterians about 1644. After the Restoration, in 1660, he was re-elected to his place at Peterhouse, and died in 1680. Isaac Barrow, the nephew, is supposed to have been born in October, 1620, but this has been disputed on the strength of an expression of his own, reported by a friend, implying that he was born on the 29th of February. However this may be, he was placed first at the Charterhouse, and afterwards at Felsted school in Essex. In the first he gave but little promise of excellence, his principal delight being in fighting, and his general habits negligent; so that his father had early begun to have some misgivings. But God to take any of his children, it might be Isaac. At the second school he formed a good character, and in December, 1643, he was entered at Peterhouse College, Cambridge, under his uncle above-mentioned. But by the time (February 1644) the uncle had died, and the nephew accordingly removed to Trinity College. His father, in the meanwhile, had suffered losses for his adherence to the cause of Charles I, and it is said that young Barrow was mulcted for his support to the well-known Dr. Hammond. He was scholar of his college in 1647: B.A. in 1648; fellow in 1649; and M.A. in 1652; ad eundem at Oxford, 1653; B. D. 1651; D. D. (by mandate), 1670. These testimonies to his merit (two and a half years more the remarkable, as he was, and always continued, a staunch Royalist. Barrow was led to his mathematical studies instead of beginning by them. He had at first intended to practise physic, and had studied accordingly, but on his accession to a fellowship he began to study theology, as required by the statutes of the college. He found by his own wants that a divine must be a chronicler, a chronicler an astronomer, and an astronomer a geometer. To the mathematicians he therefore applied himself; he was the meanwhile, as all his life, a churchman. He was the first person to discover that on the resignation of the Greek professor he was recommended to that chair. This he did not gain, being suspected of Arminianism; and the disappointment, together with the notice of the resignation of his friend, induced him to go abroad. He travelled (1655-1659) through France and Italy to Smyrna and Constantinople, thence again to Venice, and through Germany and Holland home. After his return he was episcopally ordained, a little before the Restoration. The neglect with which he was treated after that event, and the disgust in which he celebrated it,

Te magno opilio redacturum, Caro, tenuis, virum, cum spectum non toleat, tamquam
are well known; but in 1660 he was chosen Greek professor at Cambridge, and in 1662 Gresham professor of geometry. But this last he resigned in 1664, holding his duties to be incompatible with those of the Lucasian professorship, to which he was appointed by Mr. Lucas at the institution of the late chair in that college, and this, he said, in favour of a pupil, a young man whom he considered as of the highest promise, aged 27, and named Isaac Newton: indeed his whole history is one of resignations of profit upon principle. He had previously been offered a good living on condition of accepting the provostship of Eton, but rejected the offer as sanniosical. His uncle gave him a small living in Wales, and Dr. Seth Ward, bishop of Salisbury, made him one of the prebendaries of that cathedral. He heaped the revenues of both pertaining to his charnel- poses, and resigned them when Charles II, in 1672, appointed him master of Trinity College. In this capacity he exerted himself to form a library, the want of which had been long felt. His letters to various individuals to induce them to subscribe to the undertaking are preserved in the archives which they were, through his energy, and the influence of his high character, the means of erecting, and which is one of the most beautiful works of art in the university. He also remitted some of the library and the want of funds, a statute or custom might have compelled them to incur for the maintenance of his office. He died very young, considering his reputation, May 4, 1677, aged about 47, and was buried in Westminster Abbey: he left his manuscripts (afterwards archbishop), and Abraham Hill, his biographer.

On the moral and personal character of Barrow there does not seem a shade which can enable any one to deny him the highest degree of human excellence. His energy of mind is sufficiently attested by his writings—by the successful variety of his studies—by the extraordinary opinion of him formed by his associates, when compared with the degree of interest his writings present to the world, and by the nature of the letters in the possession of the trustees of Trinity College Library. One of these, written by Barrow to one of the trustees, when it was proposed to erect any fund in the college for the encouragement of the study of mathematics, the position of a mathematical professor in the college being vacant, the letter is signed by the writer Isaac Barrow, a.d. 1667. It is a character of the highest excellence, and the measure of the sữa on a very creditable recommendation of the writer.
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a thin skin, and very sensible of cold; his eyes grey, clear, and somewhat short-sighted; his hair a light brown, and curling at the sides, which he used to call his parchemarmor, or universal medicine, and imagined it helped to compose and regulate his thoughts. If he was guilty of any intemperance, it seemed to be in the love of fruit, being of opinion, that it killed all gripes, and preserved one's health. He also, little, generally rising in the winter months before day. Mr. Barrow never married: his fellowship prevented his doing so in earlier life, and on his appointment to the mastership he had the permission of the university, which was granted in the presence of Mr. Pope, as says he judged it contrary to the college statutes. Mr. Pope gives a curious reason, and says that Barrow would not expose himself to the civilities which a good match might perhaps receive. Such things do happen in our day, for sieges, battles, battering, and the impunity which he foresaw that honourable and profitable preferment would expose him to.

His sermons were excessively long. Preaching once in Westminster Abbey, at which time it was usual to show the curiosities of the place between the sermons to the common people at a low rate, he detained his impatient audience so long that they caused the organ to play 'till they had blown him down.' A sermon on charity, which he delivered before the mayor of London, included a passage of three hours and a half, and is said to have been taken from the text: 'He that uttereth a slander is a liar,' of which he was prevailed upon to preach only the half relating to slander, leaving out that which treated on lies, lasted an hour and a half. These anecdotes illustrate what we shall see.

The works which Dr. Barrow published during his life are as follows, in which a few words of the Latin titles only are retained:—1. Euclidis Elementa, Cambridge, 1655, contains all the books of Euclid, translated. London, 1660. 2. Miscellanea. Cambridge, 1657, afterwards appended to the preceding. 3. Lectiones Opticae XVIII., London, 1669; his celebrated lectures on optics; they were revised and augmented by Newton before their appearance. 4. Lectiones Geometricae IV., London, 1670; continuing his mathematical lectures to the end of 1670. Afterwards, 1673 and 1674, printed with the optics. 5. Edition of Archimedes, Apollonius and Theodorus, London, 1675.

The works of Dr. Barrow, published after his death, were 1. Lectio, in qua, &c., London, 1678. This is Archimedes on the sphere and cylinder, demonstrated by the indivisibles of Cavalierius. 2. Mathematische Lectiones, &c. These are Lucassian lectures at Cambridge, and the preface is the preliminary dissertation or introduction. 3. A Paraphrase on the Second Epistle of John, edited by Dr. Tillotson, Dean of Canterbury, London, 1685, the preface being Mr. Hill's Life of Barrow. (Last reprinted 1741?) They contain his English theological works, being sermons, expositions, &c. 4. Oeconomia, containing 12. treatises, 3 being Mathematica, and MSS. in the Bibliographia Britannica, and in Ward's Lives of the Gresham Professors. The Lectiones Geometricae and Mathematicae have been translated, the first by Stone, 1695, the second by Kirby, 1734.

We are now to consider Dr. Barrow in two lights, as a mathematician and a theologian. And in the first of these characters, without denying him high praise, we regret that the kind of language which has frequently been used concerning him should oblige us to differ from many great authorities. Without biasing the reader by the names of these, we shall quote some extracts from different writings:

'He may be esteemed as having shown a compass of invention equal if not superior to any of the moderns, Sir Isaac Newton only excepted.' This was written by one who knew Vio, Wallis, Descartes, and Leibnitz. 'He has been excelled only by his successor, Newton (in geometry.)' This is a testimony that seems to me one of the highest truth to light &c. &c. This is quoted and agreed to by an encyclopedist of some authority in this country, who however does not state what these hidden truths were. 'Of tobacco, in my day, in my view, he has had the reputation of, of having been a great man, a paragon in geometry, and a contemporary of Newton.' We must dissent entirely from such an extent of praise, as having tendencies injurious to correct biography, and not allowable even as the hyperbole which writers on that subject occasionally use. We are taking the statements from foreigners, and as in the former case, without reason. 'The Lectiones Opticas are full of profound researches in the properties of curves.' His Lectiones Opticas are worthy to figure by the side of his Lectiones Geometricae. In this work Barrow, quitting the route marked out by other opticians, applied himself principally to discuss questions which had not been treated at all, or which had not been sufficiently elucidated. Among other things, the theory of foci, which, except in a small number of cases, were then determined by experiment. Barrow gave a complete solution of all the cases of the problem to an elegant formula. This book as well as the Lectiones Geometricae is a mine of mathematical discoveries, to which geometry is always applied with pertinem###

The proceeding is, in our opinion, the best description which could be given of Barrow's mathematical judgments. He is a worthier to judge for himself what the accounts differ so much from it? Both cannot be true. The rival (almost) of Newton has been very unpretending in the second set of quotations; or, if so, the first set is extravagant. There are two things to be considered.

Barrow produced in a geometrical form that proceeds to the differential calculus which goes by the name of the method of tangents. It was, in point of fact, what we afterwards call the fundamental infinitesimal. In Newt###n's language, asserted the ultimate equality of the ratio of the differences of two ordinates and abscissae to that of the ordinates and subabscissae. It was like the previous method of Fermat that Mecanica calls. A somewhat more simplifies and more perspicuous method of indivisibles of Cavalierus, which Barrow knew, as we have seen; and it was as like the method of Roberval as Newton's system is to that of Leibnitz. But even granting the originality of the invention, neither Fermat nor Roberval ever extricated the principles from similar dimensions; and some think that Archimedes had already deprived them of the merit of originality. When the dispute between Newton and Leibnitz occurred, which, to say the least of it, was not very fairly managed on the English side, partly on either side, in judging his method, Barrow seized the strongest point of Newton's case. Instead of asserting—which we think they might have done—the Archimedes, Fermat, Wallis, Cavalierus, Roberval, Descartes, Barrow, Leibnitz, and a host of others, had been in possession (under various lights) of a principle which Newton's fluxions also contained, but that had been the essential instrument by which Newton made that principle available, namely, the general hansenese theorems and others of the same horizon. They were based upon the fluxional principle, as if that had given Newton the new powers which his method possessed. And they made of Barrow a sort of retrenched position, as to fall back in case of defeat, affirming that if the method was not that of Huygens, it was that of Barrow. Barrow had a claim of discovery prior to that of both. The gave a fictitious importance to Barrow's unremembered and elegant method, which had really presented the principles in a purer and useful form.

In the second place, popular religious writers, endeavoring to impress on their readers the argument in favour of Christi###nity, arising out of the greatness of the minds which he received, have frequently, not being well acquainted with the sciences, handled their subject unskilfully, and misapplied the proper proportions of different reputations. Among the eminent mathematician, and the most upright and consistent of men, one of the first theologians of the day, famed and deep knowledge upon so many subjects, in his day, in his view, had the tendency of the characters made to shine upon the only one in which he was viewed for the time, namely, that of a mathematician. The French Encyclopedist, whose bias lay in exactly opposite directions, had fallen into a similar error, by representing him as an obtuse mathematician. The truth will lie between the two, though we can offer our opinion upon the exact point where. Barrow was an obtuse mathematician, nor second only to Newton. In this view of his method, we do not find it profoundly versed in geometry, acquainted with all the graces as well as all its depth, and had a facility of application. 'Nihil quod tigit non erat, et nihil quod erat non tigit,' and the methods, as many others have done, both curious and useful. More than this, to make some allowance for nature to such an extent, in pure geometry, that he might.
The merit of these works is a singular brevity (omission) which does not destroy their clearness. He, one of the most virtuous of men, is one of the first writers who attempted, by throwing away circumspections and introduction of symbols, to distinguish between Euclidean rigor and unnecessary load of language. This seems to us no small merit; but where these discoveries lie which constitute this contemporary of Descartes second only to Newton, we must confessed we do not know.

In the elucidation of principles Dr. Barrow is not so happy as in his application of them. The _Mathematica Lecturae_, a commentary on the first principles of geometry and calculus, contain many new things, but their manner of expression is such that, when read over and over, the student is perplexed by new words, and even the terms they are used to signify, are changed. In this manner, a student who has understood any part of the _Euclidiana_ will not find it easy to get any idea of the _Mathematica Lecturae_. The reason of this is that the lecturer was not only too absent-minded to give his students any idea of the subject, but he was so much engrossed in his other studies that he could not give the time and trouble to impart the knowledge which he possessed.

The reader who has not been in Scotland, or who has not known the name of a school, will not be able to appreciate the value of the _Mathematica Lecturae_. The book is full of valuable information, but it is not easy to find it. The book is written in a strict, formal style, and it is difficult to read. The author is a man of great learning, and he has written a book that is full of valuable information. It is not easy to read, but it is full of valuable information. The author is a man of great learning, and he has written a book that is full of valuable information.

The trade higher up is carried on by means of barges; and great quantities of corn and butter are thus annually sent north along the river. The increase of the downward trade on the barrow, in consequence of the improvement of the navigation, has been very great. In the first year after the passing of the _Corn Intercourse Act_ between Great Britain and Ireland, the total amount of corn, flour, and meal, brought into Dublin by the River Barrow, in 1828, had increased to 32,000 tons. From the town of Carlow alone the trade, which in 1813 was only to the extent of 2000 tons, amounted in 1828 to 15,000 tons. The trade upwards has, during the same time, been nearly stationary. The town of Carlow has been little affected by the improvements of navigation. From Carlow to Dublin it has obviously fallen off, from 10,000 tons in 1807 to only 6000 tons in 1828. This effect has been attributed to the higher tolls demanded in the one case than are paid in the other. From Athy to Dublin the Canal Company received 5d. per ton, whereas from Athy to Waterford is not more than 2s. 6d. per ton.

The improvement of the Barrow navigation has been made instrumental in reclaiming much land which was previously liable to flood from the flow of the river. The trade to the present time, is of great advantage to the district through which the river flows, by giving ready and cheap access to the favourite markets of England for the superabundant agricultural produce of the south-eastern counties of Ireland.

BARROW, a considerable river in Ireland, which has its source in King's County, a few miles west of Port-Arlington. The Barrow flows first to the east, past the town just mentioned, to the borders of the County Kildare at Mount Leinster, taking its name from the Leinster, or Leinster, it divides King's and Queen's Counties from Kildare. Continuing the same course, the river passes through the County of Carlow, and afterwards forms the line of separation between the counties of Carlow and Kilkenny. It then flows into the west, and joins the sea at Waterford Haven. At Ringwood, two miles above the town of New Ross, the Barrow receives the waters of the Nore; and their united stream is afterwards augmented by the Suir, which joins it to the east of the city of Waterford. The junction of both these streams with the Barrow takes place on its right or western bank.

The three rivers here mentioned were in former times called the Three Sisters, from the circumstance of their taking their rise in the same ridge and continuing their course after flowing through different counties, at length forming a junction at a short distance from the sea. The Barrow is supposed to have been the Birges of Polybius. The mouth of these united streams forms a large and very secure port, about nine miles long, and with very good anchorage.

Consular sums of money have at various times been spent, under the sanction of parliament, to render this river navigable. From a report made to the House of Commons by the Board of inland Navigation in Ireland, it appears that about 12,000£ had been expended with this object up to the year 1811; and much has been done since that date to remove obstructions. At present the Barrow is navigable to Athy, in the County of Kildare, about sixty-five miles in a direct line from its mouth; and the communication is afterwards continued to Dublin by means of a branch of the River Liffey, and a canal, called the Grand Canal, which was opened in 1806, and runs along the Barrow twenty-five miles to the town of New Ross, by which means is enabled to carry on a valuable export trade in agricultural produce. A considerable bar, which occurs just below the junction of the Barrow and the Nore, prevents the further passage of vessels of any great burden, except at certain states of the tide.

(Sources: _Wadsworth's Statistical and Agricultural Description of Ireland_; _Campbell's Political Survey of Great Britain_; _Reports to Parliament of the Board of Inland Navigation in Ireland_; _R port of Committee of House of Commons on State of the Poor in Ireland, 1830_.)
BARROW'S STRAITS, which connect the Polar Sea with the north-west part of Baffin's Bay, were first discovered by Baffin, in 1616, who, however, supposing the land to be continuous, gave it the name of Sir James Lancaster's Sound. Various circumstances and traditions induced him, shortly afterwards, to take the artis -
and others, by which the progress of the arts had been impaired in this country. Shortly afterwards Barry proposed to the Society for the Encouragement of Arts, Manufactures, and Commerce to paint a grant of £1000. His pictures, illustrative of the position, that the happiness of mankind is promoted in proportion to the cultivation of knowledge. His offer was accepted, and the works now decorate the great room of the institution in the Adelphi. The pictures have been praised beyond the expectations of the artists, and are a serious challenge to the wild inhabitants of Tresco; a Grecian Harvest-home; the Victors at Olympia; the Triumph of the Thames; the Society distributing their Prizes; and Final Retribution. These subjects, dissimilar and some- what disjointed, are connected by a general subject on the general subject with wonderful force and unity; and we are impressed, while regarding them, with the conviction that such a work could never have been conceived nor executed. In the very highest order, Barry's chief defect was, perhaps, that in his eagerness to grasp at ethical illustration, he was apt to forget those qualities which are essentially requisite to his own art—singleness of impression and simplicity of effect. In the picture of Final Retribution, the attention is somewhat bewildered amidst the varied accumulation of characters and costumes; but if this work fails in pictorial unity, that defect is amply stoned for by the general grandeur of conception, by its interesting groups, and diversified circumstance. Barry is an artist of a different order, a serious, and, in the best sense of the word, a poetic artist. His work is not only a splendid example of pictorial skill, but embodies an idea. As the artist, through this spirit of his own, this spirit of nature, and through poetry or history of those celebrations. When Canova was in England, he declared that, had he known of the existence of such a work, he would, without any other motive, hasten to London to see it. It was gratifying to know that we were able to add that he received from public admiration or sympathy a reward at all proportioned to his deserts. The result was far different. He was permitted by the society to whom he presented the magnificent gift to sit in the room which they decorate. The receipts of this exhibition scarcely amounted to £500, to which, however, the society added a vote of £1000, and this sum comprises nearly the whole produce of his professional earnings. It is a brother of his genius, who, like his master and rival, had been expended without giving him the chance of independence, or even a tolerable provision against the common exigencies of life. The result of his past efforts left him little confidence for future exertions; nor was the want of profit compensated by any large measure of applause; his merits as an artist were but partially admitted, while his personal peculiarities were exaggerated and made a theme of derision. It can excite no surprise that, under these circumstances, his natural irritability became exasperated, and his conduct, at times, was such as to give a genuine bar to his elements. It is this too strongly attested by his last work,—the picture of Pandora receiving the Gifts of the Gods.

Barry's disputes with the Royal Academy were another source of bitterness to him, and he had been elected Professor of Painting to that body in 1785, and his connection with the members was perpetual. He retaliated against the Academy the charge made by Sir Joshua Reynolds, that in every measure proposed by him for the general advancement of art, he was opposed by the resolutions of a mercenary cabal. We can pretend to give no opinion respecting the justice of these allegations, but the members felt so annoyed at them, that they preferred against Barry a formal body of charges, and, in a general assessment, expelled him from the Academy.

Shortly after this event, the Earl of Buchan, moved perhaps by an impression that Barry had been treated unjustly, as well as by admiration of his talents, set on foot a subscription in his favour, which amounted to about £1000. With this sum it was proposed to purchase him an annuity, but the close of his career was at hand, and the kind intention of his friends was never carried into effect. On the evening of Thursday, February 6, 1806, he was discovered while at the ordinary where he usually dined, with a cold fit of pleureur fever.CORDIALS were administered, and he was conveyed to his own house in a coach, but the key being missing, the people of the neighbouring house, and it was found impossible to enter. He was then taken to the residence of his friend Mr. Bonomi, by whose prompt exertions a bed was immediately procured for him at the house of a neighbour. He here desired to get up, and was supported by medical assistance. During this time the blow was struck which timely aid might have averted. He lingered on till the 22d of February, when he expired. His remains, after the customary deposition in the great rooms in the Society of Arts, in the Adelphi, were interred in St. Paul's Cathedral.

Among the literary works of Barry may be mentioned his six lectures delivered at the Royal Academy, and a fragment on Gothic architecture, which Burke pronounced to be "as just as it is incomplete." (See Barry's Life and Works, vol. i. p. 136.) This fragment is only a mere sketch, accompanied with plates. Barry also touches on the subject elsewhere, particularly in a chapter entitled "The Error of the Notion about the Influence of Climate exemplified by the Analysis of the Architectural Analysis of the Real and Imaginary Obstructions." He endeavours to show "that what is commonly called Gothic architecture is neither the invention of a northern nor eastern people, as it is generally believed; but is really the state of disposition to the use of the hands of the same people, the Greeks and Romans." Vol. i. p. 279.

BARRY. MARIE JEANNE VAUBENIER, COUNTESSE DU BARRY, was born at Vauban, the native place of Jeanne d'Arc, in 1744. Her father, at least her reputed father, was an ex-serviceman of the name of Vaubenier. An inspector of the military victualling office, M. Dumoncereau, was her godfather. After her father's death, her mother went to Paris to look for employment, and when M. Dumoncereau placed her as a servant in a family, and the girl in a convent, which she soon left, and obtained employment at a fashionable milliner's. She was then about fifteen. Soon after she was introduced to a disreputable house, where she became acquainted with Count Jean du Barry, a notorious fashionable rake of his day, who made her his mistress for a short time, and afterwards introduced her to Lebel, valet-de-chambre to Louis XV., by whom she was taken into the service, and became remarkably handsome, and had an appearance of French beauty, harmony, or rather vulgarity, which captivated the licentious monarch. Louis wished her to have a title, in order that she might appear at court, and Guillaume du Barry, Count de Guiche, married her, as the French king by marrying her, after which she was introduced to the court at Versailles as Countess du Barry in 1769. The Duke de Choiseul, then prime minister, having spoken freely to the king about her, lost his place in consequence, the Chancellor Maupeu, Marshal Richelieu, and other courtiers, flattered her, in order to avoid themselves of her influence with the king, and it was through her that Maupeu succeeded in dismissing and expelling the parliament in 1771. The court of France, which, from the time of the death of the Regent, was for some time without a sovereign, took an exception of very few regiments, remarkable for its licentiousness, became, during the Regency and the subsequent reign of Louis XV., the abode of the most barefaced profity. Everything was sold, everything was done for the intrigues of vicious women. The accounts of those scenes which have been transmitted to us in the memoirs of several of the actors, and women too, seem almost incredible. All the courtiers, however, did not participate in the degra- dation of Guillaume. In the year 1777, the Duke de Nivernois and the Duke de Noailles spoke plainly their sentiments of the favourite, even to the king. (See Nécker, Nouveaux Mémoires Historiques, vol. ii. p. 39.)

When Louis XV died in 1774, the Countess du Barry was shut up in a convent near Meaux; but some time after..."
Louis XVI. allowed her to come out, restored to her the residence of Luciennes, which had been built for her by the old king, and allowed her a pension. After this, Madame du Barry lived in retirement, and her conduct, as far as is known, appears to have been regular. Among the persons who visited her were several artists, who were the frequent associates of the minister in his pursuits. She was almost forgotten when the Revolution broke out, but she then showed herself grateful for the treatment which she had experienced from Louis XVI. by exhibiting a lively interest for him and his family in their new station. She was removed from the Hôtel de la Reine, danger, in 1793, in order to sell her jewels, the produce of which she intended for the use of the queen and her children, who were then prisoners in the Temple. She had previously spread a report that she had been robbed of her diamonds by her former friends. The news of her arrest in July, 1772, and in November of the same year she was brought before the revolutionary tribunal, on the charge of being a conspirator, and of having worn mourning in London for the death of the tyrant. She was condemned, and was executed on the 6th of November. She cried much in going to the scaffold, and begged of the executioner to allow her a moment longer. The absurdity and injustice of the sentence made many, who had before despised her, regard her as an unfortunate victim. Madame du Barry, as well as some pretended letters by her, which appeared in 1779, but which have no evidence of authenticity. (Biographie des Contemporains; Biographie Universelle.)

BARSHT (Tetowska Stoices, Hung.), a considerable circle in the north-western part of the kingdom of Hungary, containing an area of about 1030 square miles, is bounded on the north by the circle of Thurocs, on the east by those of Hontner and Zolye, on the south by those of Comorn and Grabans, and on the west by the province of Neutra. The northern districts are very mountainous, as they are crossed by the Kylan range of the Carpathians, which begins near Neutra, enters the circle at Mount Tri beta, in the north-west, and spreads through it to the frontiers of Lete and Zolye; this is the finest gold in Europe. South of this range are the Schemnitz and Pakantz chains, which extend to the banks of the Gran, and subside between Frauenauken, Lewenz, and Pobnik. Another branch of the same range extends in a southerly direction as far south as the mountains which divide this circle from those of Grabans and Comorn. But, in general, the whole of Bars south of Lewenz is a complete level. The principal rivers which water this circle are the Gran, which flows north-west to south-west through the central parts of the circle, and the Zolye, which flows westwards through the southern parts of the circle. Among the smaller streams is the Kremsnitz, which impels several works on its banks. The soil of this circle is of varied description: in the northern parts it is cold and snowy, and unfavourable to agricultural purposes, though it affords good pastureage, which is largely used for breeding horned cattle and sheep; but in the southern, where much grain and some wine are cultivated, it is extremely fertile. The mountains in the north are richer in metals than any other part of Hungary; the Kremsnitz and Königbarg mines, which have been worked during the last seven centuries, though not so productive as in former times (the latter having been almost entirely abandoned on account of the water in them), still yield considerable quantities of silver and copper, and are mixed with gold, silver, lead, antimony, copper, iron, and coal. Near Eisenbach, Königbarg, and Kremsnitz, Amethysts, chalcedony, cornelian, semi-precious stones, agate, crystal, obsidian, sapphire, porphyry, blue, and white millesites, &c., are also among the minerals found in the circles of Bars and Thurocs. The sulphurated waters at Skjlene, and chalybeate springs at Eisenbad.

The southern parts of the circle yield so much wheat and barley that they have been termed 'the Egypt of the Magyars.' The estimated quantity of its surface available for husbandry is about 200,000 acres, of which about 128,000 are employed as arable land; but little wine is made, and even this is of inferior quality, nor do the woods and forests supply over an area of about 124,500 acres, of which there are large tracts in the south covered entirely with oak. Considerable tracts of land, also, near the banks of the Gran, and from nine to fourteen miles in extent, are covered with bushwood, and afforded the inhabitants safe refuge at the time of the Turkish invasions. Grazing carried on actively both in the northern and southern districts, and the produce of the woods and forests is a real demand. The population of Bars is about 21,000 souls, consisting of about 1700 persons of noble birth; nearly 140 of them are Roman Catholics, and the remainder Protestants; of those of Slavonian origin are far more numerous than those of Magyar. The Slavonians, or Slovaks, inhabit 167 places, the Magyars, and the descendants of Saxons, who formerly emigrated to this quarter, 10. Some Gipsy tribes roam through the country as tinkers, &c., but no Jew is permitted to set up a trade in the town. The water is carried in jars from the Oaslin, in the north, Tapolca to the south of it, Verosin south of Tapolca, and Lewenz, or Leva, eastward of the two districts last mentioned; it contains two royal mining towns, Kresznitz, (Lat. Cremnicum, Hung. Krebszt, Banya), in the north-east, and Königberg, (Lat. Regiomontum, Hung. Uj-Banya), on the Gran, which has about 3900 inhabitants; 11 market-towns, 190 villages, and 28 prebends, or privileged settlements. Bars, from which the circle takes its name, is a market-town on the Gran, belonging to Prince Esterhazy, and was once a celebrated fortress, better known under its German designation, Barsburg.

The circle contributes 84,965 florins (about 8126l.), and the two free towns 10,560 florins (about 1013l.), to the expenses of the war department of the monarchy. BART, JEAN, was born at Dunkerque in 1546. He father was a seaman, and was killed in a naval action. Jean, yet a boy, left home and went to Holland, where he served under the celebrated Admiral De Ruyter, and became a thorough sailor and master by experience. His bravery and strength, gave him the superiority over most of his comrades. When Louis XIV. declared war against Holland in 1672, Bart refused the offers made to retain him in the Dutch service, and returned to Dunkerque. He there joined the board of a private man-of-war, captured a Spanish privateer, and much of the success was attributed to Jean Bart. He share of the prizes having brought him a considerable sum of money, he fitted out a sloop with two guns and three men, and having met a Dutch man-of-war in the Texel, he boarded her, took her, and brought her into Dunkerque. He next joined several speculators who fitted out a two-gun ship, and gave him the command of it. Being equally successful in this cruise, he was intrusted with the command of a small squadron of it in the Gran, which he did great injury to the Dutch, taking both their men-of-war and their armed vessels; and among others a thirty-gun frigate, which, after a desperate fight, he carried into Dunkerque. His name now became known at court, and he was sent by Louis XIV. to the Mediterranean, and appointed a captain with the rank of lieutenant in the royal navy. In the war with England, Jean Bart had the command of a frigate in the Mediterranean, and made many prizes. When the war broke out between France and England in 1669, Bart and the lieutenant de Forbin commanded two ships of war; and, being in the neighbourhood of several of the English ships, they were attacked by two English frigates. After a desperate fight, the two French ships were taken and carried into Plymouth. Bart and Forbin escaped soon after by faking the name of their ships, and they saw a surgeon, who was a Frenchman, and of two negro boys. They being set on, they obtained a boat, in which they crossed over the Channel to France. On their return, the king ordered them to both captains.

In 1690 Bart took the command of a forty gun ship, and joined the Brett fleet under Admirals de Toulouse; he contributed materially to the advantage obtained by the French off Dieppe over the English and Dutch allied squadron in the 10th of August. Following year Bart obtained from the Minister of Marine the command of a thirty-two gun ship, which he had recommended to be fitted out at Dunkerque, as better calculated to do injury to the enemy. He sailed out of Dunkerque, passing through the English blockading squadron, and captured a man-of-war, on which he made numerous prizes; he landed also on Scotland, where he plundered several villages.

After the defeat of the French at the battle of La Hogue, at which he was not present, Bart sailed from Dunkerque with three frigates, made a descent on the English coasts.
near Newcastle, and plundered and burnt some villages. On his return home, he fell in with another Dutch fleet, and under cover of night, attacked and captured several men-of-war. He made straight for the admiral's ship, according to his cus-
mor, but was repulsed; he however succeeded in taking
many of the merchant-vessels. In 1634 he attacked another
Dutch fleet under Rear-Admiral Vries, boarded the admi-
ral's ship, and took her, after having mortally wounded the
admiral himself with his own hand. This was one of the
most desperate fights in which Bart was ever engaged. By
this victory he recovered from the Dutch a fleet of 300 ves-
sels, which was the greatest, when a fleet of 300 was a
great deal; and this fleet was no longer under the admi-
ral, which country was then suffering under a severe dearth.
A medal was struck to commemorate this event, and Louis
XIV, granted letters of nobility to Bart and his descendants.
In 1677 Bart was commissioned to take to Poland the Prince
of Conti, one of the candidates for the Polish crown, vacant
by the death of John Sobieski; but the Elector of Saxony
was proclaimed King of Poland before the Prince of Conti's
arrival.

The peace of Ryswick, in September, 1697, having put
an end to the war, Bart retired to live with his family. He
died at Dunkerque in April, 1702, at the age of fifty-one.
He was one of the boldest and most successful seamen that
France has ever produced. He was rough in his manners
and habits, but a gentleman at heart, with a fine family
disposition. His eldest son, Francois, became a vice-ad-
miral, and died in 1755. A life of Jean Bart, in French,
appeared in 1780, from the English translation of which
most of the above particulars are taken. (Life of Jean Bart,
taken from English writings, by P. T. M., M.A., London, 1828. See also Biographie Universelle and
Dictionnaire Universel Historique.)

BARTAS, GUILLAUME DE BALSUITE, SIEUR DU RIVIERE. Said to be Bartas's polohe about the year 1544, at Montfort in Armaignac, and brought up to the
profession of arms, with which he afterwards united
military, and obtained considerable reputation in both.
Being of the reformed religion, he became gentleman of the
chamber to King Charles IX. He was a persevering ser-
vant, and served her in several missions at foreign courts, England
among them, where James I. wished to retain him; and was
present at the famous battle of Ivry; four months after which
he died of wounds which had been unskilfully treated, or
to which he was exposed. Du Bartas is a striking instance of the
pernicious nature of reputation founded on literary fashion,
and a popular subject. In his own time he was accounted
so great a poet, that his principal work, giving an account of
"The Week, and Three Days of Creation," was donned
probably on the "Sette Giornate" of Tasso, went through
thirty editions in less than six years; was translated into
Latin, Italian, Spanish, German, and English; and obtained
the applause of his most illustrious contemporaries, including
Sannazarus, Cervantes and Lopez; as is also their own bar-
barism of style and bad taste, and his own countrymen treat
it with contempt. They accuse him of utter want of judg-
ment; of low, extravagant, and disgusting imagery; and
pedantic compounds of words, after the fashion of the an-
tiquaries. What was pedantry, however, in this respect, with
Du Bartas, might have helped, in greater hands, to give fire
and elevation to the French language, had the idiom itself
permitted it. The same compounding of words, which came
to nothing in old French poetry, was warmly received in
England, through the medium of Du Bartas's translator,
Sylvester, that, in conjunction with the like daring in
Chapman's "Homer," and Sir Philip Sidney's "Arcadia," it
avowedly helped to enrich the poetry of our native country;
and to Sylvester are traced some of the most beautiful com-
pound epithets of Milton and Fletcher. Yet so little worthy
of this lucky accident in their fame was the genius either of
Du Bartas or his translator, that in the latter's version,
which was once almost as popular in England as the original
work, a sentence or two of the "Creation," done over in
his own fashion, of,"silver-tongued Sylvester," are to be found
all the absurd and revolting defects noticed by the French
critics, in spite of an occasional fine verse or thought, or
keen wit, or cleverness of boot and rider. The French
read through pages of low imagery, the more revolting
for the subject, like the heavens reflected in a ditch, you
come to a passage in which the builder of the tower of
Babel is called "cloud-climbing prince," or the hands are
described as

* The voluntary champion of our hearts.

Yet in the same passage, these hands are styled "God's
asses."

* A bodly's valianters to provide it meat.

The Divine Being is in one line called the "Thunder-darter,
" and in the next the "Lord High Marshal:" the sun, or
Phoebeus, is heaven's "coochman;" the air, the "warehouse
of the winds;" and the wind itself "a sad and sorrowful
beast;" the author's genius runs everywhere upon the mecanical,
and is at the mercy of the commonest objects around him. The
work is, in truth, a dull Encyclopaedia of all that he knew.
Dryden records with amazement his having admired Sylvester's Du
Bartas, "to think, and, as he thought, to write," "a great
mean poet in comparison. How, then, did it happen that
Spenser himself found something to admire in Du Bartas
at a riper age? Because, being a greater poet than Dryden,
he had the more natural piety and imagination; was dis-
possessed of his authorship of the "Creation," and the book
was, by the death of the author, put out of the
project, and was able to do more justice to what was good in
him here and there. Du Bartas was an honest, estimable
man, with a hearty zeal for his subject, and a dull imagni-
tion; and the consequences of this inequality of moral
and intellectual qualities was, that, while a pious exaltation
made him occasionally say a fine thing, the natural home-
liness of his mind habitually reverted to common-place,
and the good opinion which he reasonably entertained of
his work, misled by the perverted life which he led when not publicly employed, rendered him, like most
solitary lives, the slave of his self love. This seems to
have been the opinion of his illustrious friend De Thou, who
describes him, nevertheless, as a man who spoke very modestly
of himself, and who was so much his own master, that if
intercourse with the wits of that time would have done him
any great good, his friendship appears to have obscured his
better knowledge; for not only is the pervading character
of his "Creation," but his "Riviere," and "Souvenirs," and
Rousaud, and others, were as far gone in pedantry as their
friend. Du Bartas, with reference both to his subject and
his genius, may be styled the French Blackmore. (Bi-
ographie Universelle; Sylvester's Du Bartas, &c.)

BARTER. BARTER. Transact directly for another,
without the employment of any instrument of
exchange which shall determine the value of the
merchandise, the transaction is called Barter. All trade re-
sults itself into an exchange of commodities; but the
commercial exchangers of one country for another effect
their exchanges by a money-payment, determined by a
market-value. This is a Sale. Swift, in his attack upon
Wood's halfpence, which he considered as destructive of the
principles of barter, says, "I do not argue upon the
principle of barter our goods, like the wild Indians, with each other." The general evils of such a state are obvious; and they
create dishonest attempts in one exchanger to cheat the other.
The North American Indians obtain a few of the articles
they want by barter, but they find it cheaper for them to
buy manufactured articles. The Indians meet the traders:
man divides his skins into lots, which have a relative
value to each other, as that two otter skins are equal to
one beaver. For one lot he wants a gun, or a looking-
glass, or a blanket, or an axe. The trader has the articles
to give the Indian in exchange. Twenty beaver-skins are
given for a gun; the gun costs a pound in Birmingham;
the beaver-skins are worth more than twenty times the
amount in London. If the Indians were brought into
more general contact with the exchangers of civilized life,
they would regulate their exchanges by a money-standard,
and would obtain a fairer value for their skins.

The term barter seems to have been derived from the lan-
guages of southern Europe; barteris, barteris, in Spanish; bartere
Italian,—which signify to cheat as well as to barter; hence
also, our word Barratry. The want of a standard of value
in all transactions of barter gives occasion to that species of
overreaching which prevails from ignorance of the real
value of commodities, or the want of all exchange by which
all exchanges are determined through an exchange. The examples of barter, however, without any reference to some standard of value,
become more and more uncommon, as the commercial intercourse
is made more complicated by the use of paper money; and the
corn, among some of the Indian tribes, is established as a
standard of value; councils are held to determine the rate
of exchange; and a beaver-skin is thus held to be worth so
many more skins of corn than a blanket. This is an
approach to a standard of value which almost takes the trans-
action out of the condition of being a barter. In the trade

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carried on between Russia and China, the exchanges of merchandise are directly effected, but the comparative value of the barter is a money-standard. This is clearly not barter. The Indian custom measured of value is something like the animal measure which formerly existed in this country, when certain values being affixed to cattle and slaves, they became an instrument of exchange, under their name of Roving money. Amongst the northern nations skins used to be a standard of value; the word señale, which signifies money in the Kestonian language, has not lost its primitive signification of skins amongst the Laplanders. When nations come to use any standard of value, or a fixed measure in the exchange of goods, they are called Barters. The word is derived from the Alpine, butts, and the Barret, or barter. The word is applied to all cases of exchange, be it of guns, flour, or corn. In the East Indies (pounded millet, Soegham, &c.), as in Nubia, or closed, as in parts of India, their transactions gradually lose the character of barter. If wares are paid in articles of consumption, as in some mining districts of England, the exchange is called truck; - troc is the French for barter.

The exchanges of a civilized people amongst themselves, or with other countries, are principally carried on by bills of exchange; the actual money-payment in a country by no means represents the value of the commercial transaction. If any sudden convulsion arise which interrupts the confidence upon which credit is founded, bills of exchange cease to be negotiable, and exchangers demand money-payments. The coin of a commercial country being insufficient, as the circulation of barter would be the natural consequence if such a disastrous state of things were to continue. Thus, when Mr. Huskisson declared in 1822, that the price of the year' that passed this country' within forty-eight hours of barter', be meant that the credit of the state would be stopped, and that the money would not have been received, or its coin, except for its intrinsic value as an article of exchange; and that the bills of individuals would have been in the same case. Barter, in this case, would have been the true money-payment.

BARTER, a rule of arithmetic, introduced into books which teach rules without principles, but which, though a very necessary and usual application of arithmetic, would be too obvious a consequence to be introduced into any system of general instruction. It is, perhaps, more proper to use goods against goods, not against money, and, as might be supposed, the rule is the following:—

1. Find the value of that commodity whose quantity is given; then find what quantity of the other at the rate proposed you may have for the same monnoge, and it will give the answer required. (Bennycast's Articlimetic.) Thus to find how many oranges at 2 a penny should be given for 150 apples at 8 a penny, find how much money 150 apples cost at 8 a penny, namely 50 pence, and find how many oranges can be bought for 50 pence at 2 a penny, namely 100.

BARTFELD (Hungar. * Bartha; * Svabon. * Baridov), a free imperial town in the county of Gyaspacht ("span country") in the county of Szabolcs, is in the county of Hungary. It is situated on the Tpil, not far from the frontier of Galicia, was built at the commencement of the thirteenth century, and enjoyed considerable repute in former times, as a seat of learning, as well as for its Protestant high school and a printing establishment, from which several valuable publications proceeded in the sixteenth century. The town possesses a fine collection of old records. It is the residence of a number of noble families, whose estates lie in the vicinity. Bartfeld carries on a brisk trade with the neighboring states. The prevalent religion, which consists principally of Roman Catholics, to whom all the churches belong, amounts to nearly 8000. It lies in 49° 16' N. lat., and 19° 10' E. Long., in its immediate neighborhood are the celebrated places of Bath, and the Bath, called the "Bartfeld Badia", to which strangers, particularly the Poles, resort in very considerable numbers, at all seasons of the year: they are accounted the finest mineral waters in Hungary.

BARTHELEMY (St. DE CHICHISSIAN), a village in the department of Isère, in France, on the right bank of the Romanche, a stream which, descending from the Alps, falls into the Drac, a tributary of the Isère. The distance of Chichissian from Grenoble is from seven to fifteen miles S.E. The only claim of this village is a notice arising from a singular natural phenomenon at the neighbourhood, the burning fountain. (Vesica.) From a spot of ground, which is about eight or nine feet across in one direction, and four to four and a half feet in the other, and bare of grass, flames are observed to rise to the height of half a foot. They are of different colours, red and yellow, and the smoke, or fume, formed by the introduction of air to the substance which is presented to them; yet they will sustain gunpowder (poudre à tirer) when thrown upon them. A sulphurous odour exhales from the place, and is perceptible at fifteen paces distance. The fountain is to be on the spot, but its bulk is not diminished. When rain is heavy, and heavy, the flames are extinguished; but in proportion as the earth becomes dry, they gradually rise up again. There is a spring at some distance, and where the waters have been brought from the near Mount, and Bathelemy, the water begins to boil hot, as though it were in a brazier over a large fire.

Malte-Brun, who briefly notices this phenomenon, as having been one of the fifteen wonders of Dauphiné, marks it as a subject of much curiosity.

Near St. Barthélemy, in a mountain called Hydrum, is a copper-mine, the metal of which contains gold and silver, there also is a mine of coal, of good quality. (Dictionnaire Universel de Francais).

BARTHELEMY, JEAN JACQUES, was born at Casis, near Aubagne, in Provence, 20th January, 1743. At twelve years of age he entered the College of the Passion de l'Oraire at Marseilles, and commenced his studies. Father Meneresse, a man of considerable learning, was intended for the canonical profession, but he was carried next into the Seminary of the Jesuits, where he studied philosophy and theology. At the same time he applied himself to the Greek and Oriental languages, for which he particularly had a taste. He afterwards became a Jesuit, and went to the Arabic by a young Maronite, one of his fellow-legionaries. He afterwards studied numismatics under Cour, a well-known antiquarian. In 1743 he proceeded to Paris, where he made the acquaintance of Grou de Bonne, counsellor to the Academy of Inscriptions and Belles-Lettres, and keeper of the king's cabinet of medals. In 1743 Grou de Bonne took Barthélemy as his assistant in the cabinet, and after Grou's death, Barthélemy succeeded him as keeper. Meantime Barthélemy had become known to the learned of Paris, and his writings were read and admired by the learned from the different quarters of France, and on the Phcenicians, Samarians, and Palmyrenian characters. In 1754 he was commissioned by the Council of Ingenious to travel in Italy, chiefly for the purpose of exploring the places connected with the life and career of Christ. At Rome he was acquainted with the learned Cardinal Alessandro Aliprandi, and Spinelli, and was presented to Benedict XIV. He was also the acquaintance of Joseph Simon Assemani, of Pasquale Jacquier, of Bouevicil, Piranesi, and all the distinguished men who were living in Rome at that time. He then turned to Naples, and examined the newly-discovered inscriptions of Pompeii and Herculanenum. On his return to Rome he was introduced to the Court of St. Martin, then French ambassador to the papal court, and his lady, and this acquaintance was continued on his return to France, became Duke of Châtillon, and was minister of Louis XV. In his elevation he did not neglect his friend, the learned for some time, for whom he had conceived a sincere esteem, and absolutely promised him unasked favours. He was then appointed governor of the city of St. Martin of Tours, and, lastly, secretary-general of the Swiss and Girone regiments in the French service. In the last situation alone was worth 20,000 francs par an. His servant, a monk of his household, and who was in the habit of living in luxury, was accused of wasting the funds; he was convicted, and executed for that purpose in Egypt. (See FAUSTINA.) The inscriptions of the tomb of Inscriptions and Belles-Lettres received him as a member, and he contributed many dissertations in the form of memoirs of that learned body. In 1798 he published Lomn,
Barthélemy's *Observations*. 2 vols. *S. Paris, 1758*, contain a life of the author by a brother academician, and a description of his works. The place of his birth is unknown, but it is said that he was born in Italy, dissertations on the antiques of Herculaneum and the tables of Hercules, reflections on some Mexican paintings, and researches on the distribution of the boon in the art of the Greeks and Romans. These last researches were written under the supervision of a member of the English House of Commons, to Barthélemy, who elucidated the investigations just referred to. This posthumous collection contains a quantity of varied and interesting erudition. Another posthumous work of Barthélemy is the *Voyage en Egypte*, a *Leiturer de* originales scrits au Comte de Caylus. *S. Paris, 1809.*

Bartlhez, Paul Joseph, a physician and physiologist, was born at Montpellier in 1734. At first he was a pupil of the learned Bouchereau, who taught him medicine, which he learned at Montpellier in 1740, and obtained the degree of doctor in 1758. After this he went to Paris, where the character of his mind, which leaned towards speculative and general views, procured for him the acquaintance of some of the most distinguished literary personages then in the metropolis. While there he wrote two essays, which were rewarded with prizes from the Academy of Inscriptions. In 1756 he was employed as physician to the army, which he soon quitted, after being attacked with severe fever. He then returned to Montpellier, and published, with the leading philosophers of the day as joint editor of the *Journal des Savants*, and of the *Encyclopédie Méthodique*. In 1759 he became a candidate for a professorship at Montpellier, and having proved himself superior to his competitors, was duly appointed to it. In 1763 he published the doctrines he had announced in his early essays, which he afterwards enlarged and published, viz., *Orante de Præcipio Vitali Humanae*, one vol. 4to. Montpellier, 1773; *Nosce Draconis*, and *Punctumbus Corporis Humani*, Montpellier, 1774.

In these works he endeavoured to point out, that the actions in the human body are dependent upon a vital principle, and that the functions of organized matter are to be considered as the effects of the operations of this matter. These doctrines he correctly applied to vegetable as well as animal bodies, for he taught vegetable physiology as well as medicine.

Another work gave more scope for the development of his views, viz., *Aperçu Elémens de la Science du Humain*, one vol. 4to. Montpellier, 1759, of which a second edition was published by him at Paris in two vols. *S. Paris, 1808.*

In this way he proved a valuable conductor to Haller and Cullen, and their works were the consequence of his proceedings. He was in the midst of his profession with increasing reputation, for ten years, when the struggles of the Revolution drove him from the metropolis. He took refuge at Carcassonne, where he practiced medicine gratis,
BARTOLONUS, ERASMUS, son of Gaspard Bartholinus (known as an author, as well as several others of his sons and grandsons), born in Roedkild in Denmark, 1625; died in 1698. He was professor of geometry, and afterwards of medicine, at Copenhagen. (See Biog. Univ.) His principal work is De Comitis, Copenhagen, 1644-45, in which he treats of comets after the manner of Descartes. (Wilde, Hist. de l'Acad. des Sciences.)

BARTOLINO, THOMAS, son of Caspar, a distinguished physician and professor of Copenhagen, was born in that city 20th October, 1616. After some years' study at the University of Leiden, he was made a doctor of medicine (1640). On the death of his father, he visited the most celebrated schools of Europe, and in 1643 entered the University of Leyden, where he took the degree of doctor of medicine, having chosen for his thesis De Phrenitis, 4to. Leiden, 1643. In the following year he returned to Copenhagen, where he published a large collection of books, in addition to the stores of knowledge which he had acquired. In 1647 he was appointed professor of mathematics in the University of Copenhagen, which situation he exchanged the following year for that of professor of anatomy. During the time he held this office he published a great many works on subjects more or less connected with anatomy and medicine, as well as other subjects. Some of these treat of anatomical discoveries then or recently made, the most celebrated of which was a work on the ventricles of the brain, in which he assigns to himself, though his claim is contested, in favour of Rudbeck, a Swedish anatomist, who, in October and November, 1639, and the greater part of the following year, made many experiments to discover the course and termination of the lacunae. In the course of these Rudbeck was surprised to discover some vessels filled with a transparent fluid, turgescent on the side of the liver; immediately concluding that they were not lacunae but a new set of vessels, hitherto unknown, he called them, from the sort of fluid which they carried, vasa sanguinis. Bartholinus, even by his own account, was not acquainted with the lymphatic vessels till the month of December, 1651; and the testimony of Haller is in favour of Rudbeck. His first publication in which the above named vessels are mentioned is his paper on the nuper in animanibus Haefini inventa, et Hepatis erosaqu, Hafn., 1613, 4to. Parisiis, 8vo. Bartholinus did not see lymphatics in man till January, 1654; yet he says, 'we envy no man's reputation, let the palm of fame be open to all, only that we have two more than they; that is, we trust we deserve it.' His work is entitled Vasa Lymphatica in homine nuper inventa, Hafn., 1654.

Another important work of his is entitled Dissertatio Anatomica de Nervorum Decussatione in Motibus opposita, Hafn., 1656, 8vo. Up to the time of Bartholinus the liver was supposed to be the sole organ of exsanguification, a doctrine which he disproved in this and other works. In 1661, his health being very delicate, he resigned his professorship, and retired to the country, of which he was extremely fond. Surrounded by his books, he hoped to spend the remainder of his life in study and tranquility, but in 1670 a fire destroyed his house, his library, and his manuscripts. After this unfortunate event he returned to Copenhagen, where the king appointed him his physician; and in addition to his salary granted him an exemption from taxes. The University of Copenhagen nominated him librarian; and in 1673, the king appointed him a member of the grand council of Denmark.

He published many successive editions of his Anatomia, which was also reprinted in various countries of Europe, and is considered to be the best work on the subject until the publication of Verreyen in 1693. Another valuable publication is the Historia Anatomicae Circuli VII., of which there is a complete analysis in Haller's Bibliotheca Medica, vol. ii. p. 654. A valuable work of a similar character is the De circuore, after his apotheker, on dissection, was unfortunately destroyed by the flames. This mode of extending our knowledge he enforced as a subsequent work, Consilium de Anatomia practicum ex eadem morborum adnecandis, cum Opera Anatomica huius temporis, Editorum Catalogo, Hafn., 1674, 4to. Another engaging work, though of an earlier date, is De vera Homunculi et Brutorum, Leide, 1647, 8vo., et Hafn., 1648, 1650, to which last edition is added Gessner's treatise. De variae adnecantia herbis praebentibus, 4to. Leu., 1639. It treats of plants which are useful in surgery. He died in 1685, on the eightieth year of his age, leaving behind him five sons and three daughters, most of whom became distinguished for their talents and learning.

(See Encyclopédie Méthodique; Haller's Bibliotheca Medica, et Hist. Anatomica.)

BARTOLINO, or BARTHOLINUS, THOMAS, one of the preceding, born in 1629, became eminent in the science of jurisprudence, in the prosecution of which, after studying at the University of Copenhagen, he proceeded to the study of the law of the Levant, and became a member of the Council of commerce at Constantinople. On his return home, he was appointed professor of history and law; and held the offices of assessor of the county court, attorney to the king, antiquary, and keeper of the royal archives. He died November 16, 1659. His published works are: 1. De Legibus, 4to. 1675; 2. De Helmer Done, 8vo. 1677; 3. De Equestris Ordinis Osmoegrocius de Christo varorum origine, fol. 4. De Consulis Mortis a Domino contemporanea, 4to. 5. Antiquitatum Danicae Livorum notitia, etc. Copenhagen, 1692. He left, also, but unfinished, an Ecclesiastical History of the North. It was from his work, De Consulis Mortis, etc. that Gray translated his Descant of Oaths. (See Memoirs of the British Antiquary Society.)

The Bartolomew Massacre, or simplement the Bartheolomew, because it occurred on the 24th of August, the feast of St. Bartholomew. The Remembrance of the French Protestants is invariably designating by contemporary writers. There has been much discussion as to the origin of the term. According to some, it comes from a Carthusian word used in Switzerland, and signifies a kind of breath (respiration, or) bound by oath. Others, with Courtois, who lived at the time it first came into use, tell us that it was an epithet of contempt, derived from a very usual word in the old French, which means to live in seam or conceal something, and implies that those who were so concealed were bound by oath not to go abroad. As the Bartheolomew massacre is one of the most contested passages in history, and as there is no authentic question upon which it is more difficult to form an opinion than open to objections, it will be convenient to examine these questions and conclusions; 2nd, a brief summary of the opinions of historians with reference to the probable motives of those who planned and executed it.

1. The causes of the Reformations in France were different from what it was in England, where, being the out of the civil magistracy, it was conducted with much more decision. In France, on the contrary, the ruling power was as opposed to it, and its progress was wholly in the tooth and courage of individuals. It was, indeed, under a sort of compulsion with the feelings of the people.
ADEHERTS OF THE ANCIENT FAITH; while in France, a Protestant meant not merely one who shook off the papal authority, but who denounced the pope as anticleric, and the ceremonies of the Roman church as the worship of Belial. In their sects and political condition the Huguenots closely resembled the English puritans of the seventeenth century. Like them, disheartened, and at length persecuted, by the Court, the French Huguenots became a distinct people in their native country, aborning and abhorred by their Catholic brethren—so-called; united to each other by the closest ties of religion and blood; solitary in their life and thought, meeting solely and implicitly, in peace and in war, to the guidance of their own leaders. The wars between these irreconcilable parties were, as might be expected, frequent and bloody.

In August, 1570, a treaty of peace was concluded between the French king, Charles IX., and his Huguenot subjects. This was the third contract of the kind that had been entered into between these parties within eight years. The two first were shamefully violated as it suited the purpose of the stronger party. It was natural therefore that the Protestant leaders should feel very distrustful as to the motives of the Court with regard to the new act of pacification; and this distrust was not from being lessened by the circumstance that the overtures were presented to the Huguenots and that the terms of the treaty were unusually favourable to the Huguenots. The veteran Coligny (see Coligny), Admiral of France, however, lent all the influence of his authority to the Court of the Huguenots, by the young Prince of Navarre (afterwards Henry IV.), Condé, and other chiefs of the Protestant party. This distrust, however, of the admiral, was entirely effaced before the end of the second year from the date of the treaty. Charles IX. was but twenty years of age when he obstinately sought to be reconciled with his Huguenot subjects. The peace was emphatically called his own peace, and he boasted that he had made it in opposition to his mother and other counsellors, saying, he was tired of civil discord. He was convinced, from experience, of the impossibility of reducing all his subjects to the same religion. His extreme youth—his impetuous and open temper—and, if we may believe Walsingham, who was the English ambassador at Paris at the time, the unsettled state of his religious opinions, inclining ‘to those of the new religion,’ naturally operated in removing the distrust of Coligny. Contrary to what had happened after former treaties, pains were taken to observe the articles of the treaty; and nearly every article was infringed by the King. Coligny spoke of the admiral in terms of praise and admiration: the complaints of the Huguenots were listened to with attention, and their reasonable requests granted; and their friends were in favour, while their enemies were in apparition. Early in 1572, Coligny’s sister married to the Prince of Navarre, the acknowledged head of the Huguenot party; and though the pope refused to grant a dispensation for the marriage, and the Spanish Court and the Guises strongly opposed it, he persisted in bringing it about, threatening the papal nuncio that he would have the ceremony performed without a dispensation, if the pope continued obstinate in withholding it. He enlisted the personal ambition of the admiral on his side, by offering to put the house of Guise in his power if he would co-operate with the Prince of Orange against the King of Spain.

Charles again, in the summer of 1571, earnestly solicited the admiral to repair to court. The letter of invitation, written in Latin, was addressed to Telywy, the admiral’s son-in-law. It was backed by warm solicitations from Montmorency, the admiral’s near relation, and the Marshal de Coes, his intimate friend. Coligny’s apprehension, however, was exaggerated, and in the end of the year he repaired to Blois, where Charles held his court. His reception was apparently the most cordial and respectful: he was restored to all his honours and dignities, and presented with presents. The king called him ‘Father, and in a tone of address added, ‘We have you at last, and you shall not escape us.’

This apparent favour of the king towards the admiral continued without interruption for many months. When absent from court, Charles maintained a correspondence with him by letters; and in their private conversation he at least affected to unbother himself without reserve to his new friend; cautioned him against his mother and her Italian favourites, spoke disparagingly of his brother Anjou, and complained that he had been incommodiously described their faults and censured their vices. Coligny was completely won by this frank demeanour of the young king, and employed his influence to induce the other Huguenot chiefs to repair to court. Though repeatedly warned of his danger, after his own consultation, and of the necessity of quitting solely and implicitly, in peace and in war, to the guidance of his own leaders. The wars between these irreconcilable parties were, as might be expected, frequent and bloody.

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This apparent favour of the king towards the admiral continued without interruption for many months. When
to enter the king's chamber: Anjou and some lords of the Catholic party joined her there soon afterwards. According to Charles's account of this meeting, as reported by his counselor, they all informed him about the treasonable conspiracy on the part of the Huguenots against himself and family; and was told that the admiral and his friends were at that moment plotting his destruction, and that if he did not promptly anticipate the designs of his enemies, and if he was not, in full next morning, he and his family might be sacri-
ficed. Under this impression, he states, he gave a reluctant hurried consent to the proposition of his counselors, ex-
claiming, as he left the room, that he hoped not a single Huguenot should find death by his hand. The admiral did, in fact, cowardly propose the massacre. The plan of the massacre had been previously ar-
ranged, and its execution intrusted to the Duke of Guise, Anjou, and Aumale, Montpensier, and Marshal Tavannes. It
wanted two hours of the appointed time: all was still at the palais royal; the admiral and others were in the bar-
cony, and awaited the result in breathless silence. This
awful suspense was broken by the report of a pistol. Charles
shook with horror—his frame trembled, his resolution failed him, and cold drops stood upon his brow. But the die was cast—
the bell of a neighbouring church tolled—and the work of slaughter commenced.
This was at two o'clock in the morning. Before five o'clock his friends were murdered in cold blood, and their remains treated with brutal indignity. Revenge and hatred being thus satiated on the Huguenot chiefs, the tocsin was sounded from the parliament house, calling on the people to come out and protect their religion and their king against Huguenot treason. It is not necessary to enter into the details of this most pernicious butchery. Death to the Huguenots— treason—courage—our cause is in the taill—kill every man of them—it is the king's orders, shouted the court leaders, as they galloped through the streets, ob- serving the armed citizens to the slaughter. 'Kill! kill!—bleeding is as wholesome in August as in May,' shouted the Mar-
shal Tavannes, another of the planners of the massacre. This massacre in all its modes, and the butchery, was all
up hatred of the Parisian populace; and the Huguenots were butchered in their beds, or endeavouring to escape, without any regard to age, sex, or condition. Nor was the slaughter wholly confined to the Protestants. Secret re-
venge and personal hatred embroiled that favourable oppor-
tunity of gratification, and many Catholics fell by the hand of Catholic assassins.
Towards evening the exactions of the populace began, and were increased by the sound of trumpet, commanded every man to return to his house, under penalty of death, excepting the officers of the guards and the civic authorities; and on the second day he issued another proclamation, de-
claring, under pain of death, that no person should kill or permit to be killed, and that cruelty, directed from vengeful motives, be not the pretext for murdering the royal family, in conse-
quence of the massacre of Guise, in consequence of which, the admiral, and some gentlemen of his party, had been slain; since which, the populace, ex-
asperated by the threat of the massacre, and believing that the restraint imposed upon the royal family, had been guilty of
violent excesses, and, to his great regret, had killed all the chiefes of the Huguenots who were at Paris.
On the following day, the 24th, he wrote to Schoelcher, his agent with the Protestant princes of Germany, that having been appeased by some of the Huguenots themselves of a conspiracy formed by the admiral and others to murder him, his mother, and brothers, he had henceforward,
with some other proposals to sanction the counter attacks of the house of Guise, in consequence of which, the admiral, and some gentlemen of his party, had been slain; since which, the populace, ex-
asperated by the threat of the massacre, and believing that the restraint imposed upon the royal family, had been guilty of
violent excesses, and, to his great regret, had killed all the chiefes of the Huguenots who were at Paris.
A more dangerous plot was in state in the depart-
ment of Puy-de-Dôme, and served himself at the expense of some of the mas-
sacre, alarming to himself the merit of having thereby given peace to his kingdom; he denounced the admiral and his adherents as traitors, and declared that he had timely de-
facted the insurrection of the royal family.
These are the leading facts of the Bartholomew Massacres, conserving the truth of which there is no controversy. They are admitted and approved by historians who use the most exaggerated language and adjectives.
This brings us to the second part of the subject.
§ 2. Two questions have arose out of a consideration of the facts which we have just narrated:—1. Was the massacre the result of a premeditated plot, concerted with deliberate and connivance on the admiral's part? The answer to this question is, that in the meeting at Bayonne in 1624; or was it the sudden conse-
quences of the failure of the attack upon the life of the admiral two days before its occurrence?—2. Admitting it to
have been premeditated, was Guise the instigator to the plot?—the answer to this question is, that no direct proof of the admiral's connivance in the massacre of 1678, the death of his sister, and his friendly dispositions towards the adhered and the Huguenot chiefs, one piece of the most profound treach-
ery and dissimulation? Volumes have been written a reference to these questions; our limits confine us to a statement of their results.
We shall dispose of the first question rather summarily. The conferences at Bayonne between Catherine de Medici and the Duke of Alva were secret; if ever revealed to writ-
ing, no direct proof of the connivance in which they termi-
nated has come down to us. There is, however, strong sub-
stantial evidence to show that they related to the most effec-
tive means of subduing the Protestants in Flanders and
Holland. Mutual amity was stipulated and enforced. Alva was to expel the Calvinists, and if any were suspected to have derived the materials of his history from the journal of Comte, Duke of Tuscany, who died in 1774, states that Alva declared for an immediate extermination, and the Protestants were treated as the enemies of the state. The lords and princes, on the other hand, were given the assurance that the refugees would be allowed to return to the bosom of the ancient church as feint-hearted, and treason to the cause of God. Catherine represented that such an extermination as Alva contemplated was beyond the ability of the royal power in France. They agreed as to the sentiment, but the methods of accomplishing it; and the conferences terminated with the parties merely agreeing as to the general principles of de-
stroying the incorrigible ring-leader of the heretical sect, such sovereign being at liberty to select the opportuni-
ty—this is clearly evident from the history of the affairs of his own dominions. This statement is adopted by the judicious De Thou, Strada, the historian of Alva's govern-
ment in Flanders, who from the papers of the House of Parma, says, in reference to the hypocrite, that the Bar-
tholomew was planned at Bayonne, a general determination on the best of the courts of Spain and France to subdue, if not exterminate Pro-
testanism; but no concerted plot, or concerted plan of operations.
The evidence is much more conflicting with regard to the sincerity of Charles in the affair of the peace of 1579, and the events that followed it, with regard to his share in de-
virging the Bartholomew. Against the supposition of his
having been perhaps the most profound dissenter that the world has ever known, the evidence derived from his extreme youth, and his father, restless, vehement, and cholericly unapproachable character. He was only twenty-four when he died, and through so many a long from the day he was born, the govern-
ment was no more firmly in his hands that it was when he
was the secondary of that remarkable and valiant monarch over his mind, that it is hardly possible to speak with certainty as to his genuine disposition, or to affirm on what
basis the judgments of his contemporaries have rested. His judgment of purpose has been rendered less and his weakness by historians, who have stipulated him as a master of the art of simulation; while the cruelty of his wars, and the leg-
endary violence of his temper when under the influence of passion, have been justly referred to us an argument to
that his friends would have died from Paris to a place of safety—as at events, they would not have been butchered although they were cold for the death of the admiral was the sole chief object of the reconstructions of the court, why did they defer it so long or attempt it as being a bungling way? The Italian writer Davide has furnished a refined and subtle explanation of this difficulty, characteristic of the character of the Guise and the Huguenots, which would immediately rise in arms and wreak their vengeance upon the Guises; and that object having been obtained, that they would in turn be themselves overpowered and massacred by the royal forces. By these means the Guises would at once be deprived of their chief rivals, the Huguenots and the Castillon, both equally obnoxious to the Court. But we agree with Mr. Allen that this hypothesis is too refined and uncertain a speculation even for Catherine, and that the difficulty is not explained by it. To our minds the difficulty can be explained only by the supposition that Charles was not only not privy to the design of the massacre, but that its plotters were doubtful of obtaining his consent. His occasional ferocity during and after the massacre, and that he neglected the warrant he had given to the Duke of Anjou and the Huguenots, in order to remove all doubts on their minds as to the peace. And again, my Aunt, said he, I honour you more than the pope, and I love my sister more than I love him. I am no Huguenot, neither am I a fool; and if Mr. Pope does not mend his manners, I will myself give way Margery in full convoluto. (Mathieu; Memorie de l'Ist.)

It was on this occasion, according to De Thou, Sully, and others, that Charles is said to have exultantly asked his mother—Have I not played my part well? Yes, said she; but to commence is nothing, unless you go through. Leave it to me, he replied, with an oath. I will not then say it all to you. One other posthumous testimony is on both sides, namely a letter of 1577 from Poitiers and a M.S. in the Bibliothèque du Roi, quoted by Mr. Allen, adds, That he complained of the hardships of being obliged to desist so long. There is one other testimony, nearly, among many told of him, which we shall quote, and leave to speak for itself.

On the evening of St. Bartholomew, and after he had given his orders for the massacre, he redoubled his kindness to the King of Navarre, and desired him to introduce some of his best officers into the Louvre, that they might be at hand in case of any disturbances from the Guises. These officers were butchered next morning in his presence.

That the peace of 1577 was, so far as Catherine de' Medici and her party was concerned, a peace of truce only, going no further than the partition of the kingdom, is the universal opinion of historians, and is admitted by those who deny that Charles had any guilty share in the transaction: De Thou alone hesitates to admit the long-mediated truce. Opinion is divided as to the connexion between the massacre and the general design to cut off the leader (le tat de sanson de Alva) of the Protestant party. One great difficulty presents itself. The success of the expedition, with its subsequent military operations, being not only the result of Charles and Catherine and their successors, the great devisers of the massacre. If they really designed from the first a general massacre, why did they run the very great risk of defeating their purpose by cutting off the admiral alone without the other leaders? If the admiral had fallen at the instant by the hand of the assassin, is it not highly probable...
BARTHOLOMEW, ST., one of the Antilles, in 17° 23' N. lat., and 62° 54' W. long., having the islands of St. Martin on the north, and St. Christopher's to the south; its distance from the former of these islands is 12 miles, and from the latter 28 miles. St. Bartholomew is of an irregular shape. Its greatest length on the west, and least on the east is about 5 square miles. The shores are rocky and dangerous, and should not be approached without the assistance of an experienced pilot. It contains only one port, Le Carneau, which, however, is in very good condition; it is on the west side of the island, and near the most westerly point is the port of Gustavia, which is inhabited by a very mixed population of Swedes, English, French, Danes, and Americans. There are no springs on the island, and the sole dependence of the inhabitants for water is upon the rain; they have, in some dry seasons, been compelled to import water from the neighbouring islands.

The soil is good, and produces sugar, cotton, tobacco, mace, nutmegs, and indigo; the climate of peculiar quality is quarrelled and sent in different vessels to the West Indies, where it is used for building purposes. There is abundance of wood in the island, including lignum vitae and iron-wood.

St. Bartholomew was first settled in 1648 by a colony of Frenchmen, who went for that purpose from St. Christopher's. In 1689 it was taken by the English under Admiral Thornhill, and remained in their possession until the peace of 1697, when it was restored to France. In 1703 it was again taken by the English, and was never given up under the treaty of Aix-la-Chapelle. In 1783 the island was ceded by France to Sweden, and has since continued subject to that power. The population of the island is about 600; two-thirds of that number are employed on the planters, the greater part of whom are Frenchmen. (Thompson's Alcedo; Purdy's Columbian Naturalist; Malham's Naval Gallerist.)

BARTOLI, DANILO, was born at Ferrara, in 1606. At the age of fifteen he entered the Order of the Jesuits. After passing through his preliminary studies, and reading the vows, he was very desirous to go to India, to preach the mission, for his order, who engaged him in spreading Christianity through the East; but he was kept back by the judgment that he would be more useful at home, employed him as a preacher in various parts of Italy. As he was proceeding to Palermo, to preach there during the Lent of 1626, he was seized and carried away to Tunis, and afterwards continued his voyage in another vessel. Although he had lost the MSS. of his sermons, he contrived, by means of a few fragments which he had preserved, and with the assistance of a good memory, to go through his Discourses of the Gospels in Tunis. Towards the end of 1650 he was sent for to Rome by the Father-General, and commissioned to write the history of the Order in the Italian language. He divided his subject by treating of the Pope's See as it existed exclusively of the temporal power, in which the Order had established itself. He began his work on the Istoria della Compagnia di Gesù, L'Anna, parte prima, fol., Roma, 1653. In this volume he treats of the first missions sent by the Jesuits to the East, beginning with the voyage of Loyola to the East Indies in 1516. He describes the first success of the missionaries on the Moluccas and Coromandel coast, at Maldac. The work may serve as a supplement to Barro's Ana Fortunata. Bartoli published next II Giugno, seconda parte del, fol., Roma, 1660, perhaps the most important of his works. The rapid diffusion of Christianity in Japan and its subsequent total eradication by fire and sword, are remarkable historical events. Bartoli's narrative embraces the whole history of Christianity in Japan, from the landing of its first preacher, Xavier, in 1549, to its entire extinction, in 1637, when Japan was closed against all Europeans, with the exception of the Dutch, who were, and are still, allowed to trade at the harbour of Nagasaki. This work is a very valuable book; the writer is honest and conscientious, though he may sometimes appear credulous on the subject of such special agency; he drew his facts from original and recent documents, and with great good sense shows the feelings with which the Christians considered and wished to be made Christians.

Bartoli's next publication was Le Cina, terza parte dell'Asia, fol., Roma, 1663. This work, which embraces also the missions to Cochín China, is related on account of Asia—an account replete with interest, for there may be looked upon as the heroic times of the Orders of Jesuits. He next published L'Italia, prona parte dell'Asia, fol., Roma, 1673; L'Italia, seconda parte dell'Asia, fol., Roma, 1674. Though the English Catholics, principally under Elizabeth and James I., the author passes rapidly over the reign of Mary, who, he says, was obliged to use the sword, in order to cut off the pretensions of the conquering irresistable, and to infect the rest. But in the body of his work there is a strict, deliberate investigation of facts. Bartoli shows as much fairness as could be expected from a man of his order, and of the times in which he wrote. Bartoli wrote also the life of the vates de la Santa Anna, the father Ignazio, Istituto di S. Ignazio, fol., Roma, 1689. There is, however, another and older life of Ignatius, by Father Ribadeneira, a countryman and contemporary of Loyola. Bartoli's works contain a vast quantity of materials for
the history of the first century of the Society of Jesus.

He wrote also several books of morality: La Ricreazione del Sermo; Milano, 1660; being considerations on the wonders of nature, from which he derives moral and religious arguments for the conduct of a wise man. Della Geografia traversata e Moravia, in Rome, 1664; a work on the same principle as the preceding, in which the author indulges very freely in allegory and other figures, according to the taste of the Italian writers of the seventeenth century, which fact, however, he has evinced in his historical works. L'Uomo di Lettere difeso ed esposto. His greatest work is La Letteratura di tutti i Popoli. This work has been translated into English, by Thomas Salisbury, 8vo., London, 1668. It also went through many editions in Italian.

Bartoli treats on several physical phenomena on sound and hearing, Del Seme, de' Truovi amorosi, et dell' Udit, 4to, Rome, 1679; on ice, Del Giglio, e della Congelazione, 4to, Rome, 1681; on the depression and expansion of quicksilver in tubes, La Tensione e la Presione dispuatanti qual di loro sussistono? l'Argento Vetro ne' Can-

nelli dopo fatto il tuono, 12mo, Veneti, 1679.

Bartoli also wrote several works on the Italian language: Il Torto e il Deritio del nom si, 2nd ed., 12mo, Rome, 1685, and many others, as De L'Ortografo Italiana, ibid. 1676. His published works, and his proofs of work in Cincio, Osservazioni sulla Lingua Italiana, one of the best works on Italian grammar. An edition of Bartoli's minor works, including some of his sermons, was published as Bartoli i Sermoni, to 4to, Verona, 1695-7. Other works of his were published in various countries on Asia, Japan, and China, after having become very scarce, and having fallen into unmerited oblivion, has been of late years strongly praised and recommended by Italian philo-

Bartoli was appointed Rector of the Gregorian or Roman College, in 1671. He died at Rome, in January, 1683, aged seventy-three years. He was buried in the church of S. Maria Maggiore, and the works above quoted.

BARTOLOZZI, FRANCESCO. This distinguished engraver was born in Florence in 1730, though some ac-

counts give the date earlier. He received his first in-

structions in drawing under Gennaro Biagio and Ignazio Hugford, in the Florentine academy. Here his acquaint-

ance commenced with Giovanni Cipriani, with whom his name became afterwards intimately associated, by their joint subscription in 1755 to the engraving under Joseph Wagner, of Venice, and when the term of his engagement with that master had expired, he married a Venetian lady, and went to Rome, whither he had been invited by Cardinal Bortoli. Here he established his re-
putation, and was always in demand, during his life, by a series of portraits for a new edition of Vasari. Having com-

pleted these works he returned to Venice, where he was engaged by Mr. Dalton, librarian to George III., to engrave a set of drawings by Guercino, which having accomplished, that gentleman invited him to England to continue engraving for him on a stipend of 300l. per annum: this offer Bartolozzi accepted, and the series of plates from Guercino were completed in this country. Some of the earliest in the English history, and the masterpiece of himself in England were designs for tickets for the select performances at the Opera House; and he excelled in so much talent in these limited subjects, and obtained such popu-

larity, as to receive important public commissions, for the celebration of great events. Strange, who pronounced him incapable of executing any-

thing else. This liberal remark brought on its own refu-

tation. Bartolozzi immediately commenced his engraving of Clytie, after Annibale Carracci, and that of the Virgin and Child, both of which the orphan children of Domenico are in the highest degree brilliant and spirited, and would alone have been sufficient to establish the name of Bartolozzi as an engraver of the very highest order. A style of doctitious execution, including all the most subtle and intricate parts of a bad and meretricious success, the success of which was in great measure attributed to the example of Bartolozzi; but this slight deviation from sound taste was amply atoned for by the correctness and beauty of his general style. His cor-

rect drawing, and especially the accurate finishing of the

extremities of his figures, were much admired by Sir Joshua Reynolds, and recommended by him to the imitation of the students of the English school, which at that time was extremely deficient in those points. Bartolozzi engraved a prodigious number of the paintings and draw-

ings of Cipriani's, and, as a work on the same principles as the preceding, in which the author indulges very freely in allegory and other figures, according to the taste of the Italian writers of the seventeenth century, which fact, however, he has evinced in his historical works. L'Uomo di Lettere difeso ed esposto. His greatest work is La Letteratura di tutti i Popoli. This work has been translated into English, by Thomas Salisbury, 8vo., London, 1668. It also went through many editions in Italian.

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ever after his father and supporter. In the words of his \textit{prolific}, written at a late period of the life of the latter, \textquoteleft He laid the foundation of what little prosperity in life I now or may in future enjoy: and if it shall ever be my fortune, either by my labours or my zeal, to advance the prospect of science and success in the interest and service of my country, I should be the most ungrateful of men if I did not acknowledge and wish it to be known that it was David Rittenhouse who enabled me to be useful.\textquoteprime; In 1785 Mr. Barton accompanied his uncle and the other American delegates in the first Bath Congress of Philadelphia. On this occasion he enjoyed peculiarly favourable opportunities for studying the manners of the American Indians, their history, and their traditional medicines; and thus he was led into some curious investigations concerning root and bark physicians, whose knowledge was reckoned good enough reputation. When about twenty-one, Mr. Barton embarked for Great Britain with a view to completing his medical education at Edinburgh, where he remained about two years; owing, however, to some dissatisfaction with two of the professors, who he fancied did not show him sufficient attention, he went to Göttingen to graduate, although he had distinguished himself at Edinburgh by gaining the Harveian prize of the Royal Medical Society for his dissertation on the utility of the medicinal plants from return from Europe Dr. Barton established himself in Philadelphia as a physician, and soon found some practice. His reputation for attainments in natural science introduced him so strongly that when he was appointed professor of natural history and botany in the college of Philadelphia, and thus was the earliest teacher of natural science in the transatlantic world, an office which he continued to hold zealously and successfully for six years, he went to increase his qualifications through the different sections of the United States a number of well-grounded naturalists, who must have contributed most essentially, by their taste and pursuits, to foster among the Americans a love for the pleasures of science from which they are now deriving their reputation among foreign nations. In 1802 Dr. Barton was elected vice-president of the American Philosophical Society; when thirty he became professor of materia medica; upon the death of Dr. Rush in 1813 he was named chair of the practice of medicine, which he held till his death; and in the year 1809 he became president of the Philadelphia Medical Society, the highest mark of respect for professional talent which it was in the power of his fellow citizens to bestow. In a short time, however, his incessant labours, and the heavy duties of his professional avocations, which, as his biographer observed, had been performed with a fatal degree of faithfulness, produced their usual effects: his constitution gave way; and in the midst of the severe bodily infirmity and an ever-restless mind, till at last, after visiting Europe in a vain attempt to restore his shattered powers, he died in December, 1815, having gone through a career alike honourable to himself and his country. This consisted chiefly of papers upon various subjects relating to the natural history and antiquities of North America, and an occasional paper on botany, which passed through two American editions. They all evince an ardent zeal for favourite pursuits and a scrupulous exactness in the statements he put forth: and they must have contributed in a most powerful degree to the advancement of North American science. Among other things we may mention that he early became a friend to nature; Dr. Barton not only observed the most minute and delicate parts of the rose when steeped in water to revive faded flowers, showing it to be a vegetable stimulant of peculiar energy, \textquoteleft I have learned to distrust is nervous apoplexy,\textquoteprime; said our celebrated countryman John Ray; this most important principle was acted upon by Dr. Barton in a manner which showed the soundness of his mind and the goodness of his judgment. \textquoteleft Credulity,\textquoteprime; he used to say, \textquoteleft is the most injurious feature in the character of the naturalist as well as of the professional physician, and should be kept always in the most decided and unforgiving of prayers.\textquoteprime; The excellence of those labours in which his talents had been unprejudiced; among his many acts of liberality ought to be mentioned two in particular which have been attended with permanently valuable results. At his private charge the late Frederick Parrah was sent to the Alleghany Mountains and the western territory of the Southern States for the sake of exploring their vegetable productions; on which occasion he acquired the most valuable part of the materials from which he subsequently prepared his American Flora. At a later period Dr. Barton enabled Mr. Nuttall, in 1810, to visit the northern and north-western parts of the United States and the adjoining British territories with a similar object in view: he was an incessant and unremitting advocate of the advancement of science to his benefactor in the pursuit of his work, instead of making his memory the subject of a contemptible squabble. We are indebted for the principal part of the above information to a \textit{Botanical Sketch of Professor Barton} by his nephew, Dr. William P.C. Barton, himself a botanist of considerable reputation. He is the author of a \textit{Useful Compendium of the Flora of Philadelphia}, of two volumes quarto, on the Vegetable Materia Medica of the United States, of 3,000 pages, and a \textit{Concise History of American Botany}, in three volumes, quarto, published between 1821 and 1824. The botanical plates in these two last works are by far the best that have yet appeared in the continent of America, and are regarded as the one of the most celebrated European botanists. Barton, Elizabeth, the 'boly maid of Kent.' Respecting the early life of this woman we possess no information. She first becomes known to us in 1552, when a child she was attached to the Queen. The love and interest which Kent, she began to acquire a local reputation for sanctity and miraculous endowments. She was subject to fits of an epileptic character, and, in the paroxysms of her disordered intellect, vented her feelings in incoherent phrases and exclamations. It is also related that the old Bishop of Winchester was of the said paroxysms of a diseased intellect. Master and Dr. Bocking, a monk of Canterbury, took her under their direction, and instructed her in the tricks she should play. At first it was probable that she was simply their instrument, but she soon appears to have become a kind of accomplice, though we cannot perhaps fairly consider her, in any part of her career, as perfectly sound mind. A successful prediction led to the general attention of a child. The child of the master of the convent to her, and when Elizabeth was attached to one of her fits. On recovering, the child was dead? She was told that it was still living. 'It will not live, I announce to you; its death has been revealed to me in a vision, was the answer. The child died, and Elizabeth both with the child. The convent of the sisters of Heaven with the gift of prophecy. She soon after received the crown of St. Sepulchre's at Canterbury, and became a nun. In this new situation her ecstasies and revelations were multiplied, and she became generally known by the designation of the 'boly maid of Kent.' Several persons of distinction, 'nobles as well as spiritual persons,' to quote from the statute, believed in her divina mission. Bishop Fisher, the infant of the present house of York, and Archbishop Warham, a learned and amiable man, conversed with her, and, above all, the strong intellect and uprightness of heart of the Thomas More did not secure him against the damage of her age. (See Cromwell's letter to Fisher in the Appendix to Burnet. Fisher's speeches before the council, and where the Maid of Kent is quoted at length in the \textit{Public\-\textit{arientary History}, vol. i. p. 320, from Cabor.) In his letter to Cromwell, More tells us that the king himself fast desired his attendance, the traces and rancours of the 'sorry base, calling upon him to receive a letter from Archbishop Warham had sent to Henry of what she had seen in her visions. 'I told him,' says More, 'that in good faith I found nothing in these words that I could not apply to myself or even to science to the spirit, and that, God wots, full rude also, for any good. God wots, that I saw therein, a right simple woman, spake in my mind speak it of her own wit well enough; but added...
as it was reported that a miracle was wrought in her, but not, and would not be held in judging the matter. This was in the early part of her career. During the subsequent seven or eight years, more states that he continually heard 'ruch' talking about her, although no miracle or revelation was reported. When informed, moreover, that she had had a personal interview with the king, he challenged the claim. To the cardinal she said that in a vision she saw the Almighty deliver into his hands three swords, one of which signified the authority which as legate he exercised over the clergy; the second, not to make change for the tempestuous; and the third, his authority in the great business of the marriage's marriage; and heard him at the time, to declare that unless Wolsey employed these swords properly, it should be laid sorely to his charge. The prediction to that effect was fulfilled in the king's divorce; the cardinals were to repudiate Katherine he would die in the course of seven months, and be succeeded on the throne by his daughter Mary.

In the year 1533 Sir Thomas More had an interview with the holy nun at the chapel of the friars at Sion. The result was, that he thought heaven was working 'some good and great things by her.' She told him, among other strange things which threw light on the state of heruddy, that 'for three days past,' she 'had been in a kind of hard, was flying and fluttering about her in a chamber, and suffered herself to be taken, and being in hands suddenly changed in their sight that were present into such a strange, ugly, fashioned bird that they were all afraid, and threw him out of the window on one part, and another person, before he could fore his execution, changed his tone, and declared her, in his letter to Cromwell, to be 'a good nun' and a hypocrite.

If this poor creature confined her prophecies to the common purposes of life, or to the current topics of religious controversy, she would have been permitted to die in peace; but, led by zeal, or more probably worked upon by others, she boldly prophesied against evil-doers in high places, and in reference of Catherine. The cardinals and the king with Anne Boleyn, declared, that she had knowledge by revelation from heaven that God was highly displeased with our said sovereign lord, and that if he proceeded in the said divorce and separation and married again, he should no longer be king of this realm; and that, in the estimation of Almighty God, he should not be king one hour, and that he should die a villain's death.' She was at the time so popular, and so extensively extolled by many of the clergy, and such pains were taken on their part to diffuse her sentiments respecting the divorce, that the government at length proceeded to take active measures against her and her adherents. Accordingly, in November, 1533, the nun, with five priests and three lay gentlemen, her accomplices, were arrested and conveyed to citizens in the Tower, and for public penance as impostors at St. Paul's Cross. It is stated by the more zealous anti-Rosien writers, that the nun did confess herself to be an impostor, and that she was compelled to clamor in inspiration at the instigation of the devil; but it is much more probable that a false confession was obtained from her with the hope of saving her life than that a simple woman should have contrived and carried on, for many years, a system of complicated mental and physical imposture. Landed admits that she confessed her guilt, but threw the burden of her offence on her companions. Burnet goes so far as to denounce the whole affair as an imposture from the beginning: maintaining that the nun was taught to counterfeit the very convulsions and transees of a madman, and sitts, while her hands showed a sick and discomposed brain,' and subject to 'hysterical fits.'

But the nun's confession, whatever were its motives, availed her nothing. From the pillory she and her companions were led to the prison, where they lay till the following January, when the pope commanded William and the nun. It was thought that as the imposture had been doubly proved—by the alleged confession, and by the fact that the king had outlived the period assigned him by the prophet. But the king was not of a temper to be so easily satisfied. On the 21st April, 1534, the nun was beheaded at Tyburn, together with the five priests.

There are some small discrepancies in the accounts of this event in the original and the modern accounts of the execution of herself and her accomplices. The credit and countenance which Fisher, Bishop of Rochester, and Sir Thomas More had given to her, were among the articles of accusation against these two persons. (See p. 316.)

Barton-on-Humber is a market-town of the county of Lincoln, in the wapentake of Yarborough. It is situated on the south side of the Humber, 155 miles north from London, and 33 north by east from Lincoln. The lords of Barton are of the family of Barton, and claim to be the descendants of the old family of the Humber, on both sides the river. At the time of the Norman Conquest, Barton was a place of some importance, and one of the principal ports of the Humbers. It was then a manor, and was granted by Charles I., 24th April, 1345, to Richard de Howden, a Benedictine, until the foundation of Kingston-upon-Humber by Edward I., it had a considerable share of trade, which afterwards gradually declined. When Edward III. required the sea-ports to contribute ships and men for his expedition against France, Barton contributed five ships and ninety-one men; but at that time many of our present sea-ports on the eastern coast were not even mentioned. It is now principally noted for being the place where the northern road passes the Humber (which is about 12 miles from the town), and for the ferry in the ferry have rendered it a great thoroughfare. Steam-packets cross and re-cross the river every morning and evening for passengers, the distance being about six miles and a half to the opposite bank. Although there is property on both sides of the river, and the respective districts of which are popularly considered as parishes. St. Peter's Church appears to have been built about the time of the Conquest. The tower, which is the oldest part of the structure, is regarded as an object of considerable architectural interest, as it has the front of its lower compartment (as represented in a plate of the Gentleman's Magazine for 1811) presents two rows of pillars, the lower row supporting round, and the higher pointed arches. The windows in the lower and upper compartments of the lower have round arches; but in the blank windows of the middle compartment the arches are also pointed. The living is a discharged vicarage in the archdeaconry and diocese of Lincoln, valued in the king's books at 19s. 4d. 6d., and stated to be worth of 250l. per annum. The church of St. Mary is a very handsome structure of the fourteenth century, said to have been erected by the merchants of Barton as a chapel of ease to the old church. The churches are kept in repair by their separate districts, and service is performed alternately at each. The town consists of several well-built streets, with several good inns; but, besides the churches, it contains no public building that requires notice. A court-leet is held half-yearly at Barton for the cognisance of all pleas of the commonalty and the county. It is also a market on Tuesday and Wednesday, and a fair on the first Monday of every month. The market is on Monday, and another for fat cattle once a fortnight. The annual fair is held on the Thursday after Trinity Sunday. Barton contained 774 houses in 1831, with a population of 3,833 persons, 1,699 of whom were females. (Howlet's Statistical View in the County of Lincoln; Historical and Descriptive Account of Lincolnshire, 1825-6.)

BARUCH. Βαρύχ means, literally, 'blessed,' and corresponds to the names Macarius (Macarius) in Greek, and Benedictus in Latin. Hence Baruch Spinoza called himself Benedictus in the title of his Latin works.

Among the various individuals called by the name of Baruch, none is so generally known as the son of Maaseiah. This Baruch was the scribe and assistant of the prophet Jeremiah. During the reigns of Josiah, Jehoikim, Jehoashin, and Zedekiah, kings of Judah, Jeremiah warned the princes and people of the land to repent, but the exiles, beyond the river Euphrates, were rebelling, and were in the habit of coming to Jerusalem to reprove, and foretelling the approaching calamitous judgments of the Lord.

In the fourth year of the reign of Jehoiakim, about a.c. 607, while Jeremiah was thus busily employed, a command was sent to all the prophecies which he had uttered to be written in a roll. He accordingly summoned Baruch, the scribe, who wrote from the mouth of Jeremiah

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BARTHOLOMEW, or BARTHOLOMUS, THOMAS, one of the preceding, born in 1629, became eminent in the science of jurisprudence, in the University of Leiden. In 1656 he was chosen for his thesis De finem GENERIS, 4to., and where afterwards he republished his father's Anatomia Institutiones, with additions, 1641, 1 vol. 8vo. Thence he went to France, and spent two years between Paris and Montpellier. From France he went to Padua, where he lived five years; and in 1646, he was elected professor of medicine at the University of Padua. In 1647 he was appointed professor of mathematics in the University of Copenhagen, which situation he continued in the following year for the chair of anatomy. During the time he held this office he published a great many works on subjects more or less connected with anatomy and medicine, as well as other subjects. Some of these treat of anatomical dis- coveries, and the discovery of the lymphatic vessels, the merit of which was assigned to himself; and the discovery of the lymphatic vessels is that which made him famous. The discovery of the lymphatic vessels, the merit of which was assigned to himself, has been contested in favour of Rub Nicholson, a Swedish anatomist, who, in 1652, made experiments to discover the course and termination of the lymphatics. In the course of these experiments Rub Nicholson was surprised to discover some vessels filled with a transparent fluid, turbid on the side of the liver; immediately concluding that they were lymphatics, he published a new set of vessels, hitherto unknown, he called them, from the sort of fluid which they carried, vasa serosa. Bartholomeus, even by his own account, was not acquainted with the lymphatic vessels discovered by Rub Nicholson in December 1652; and the testimony of Haller is in favour of Rub Nicholson. In the year 1652, in which they are mentioned is entitled Vasa Lymphatica super in animantibus Hafni inventa, et Hepatis crux, Hafniæ, 1613, 4to. Parisiæ, 1800. Bartholomeus did not see the lymphatics in man till January, '1653, yet he says: 'studium non mea reputatione; let the palm of fame lie open to all; only let the honour of the invention be left to us, as we trust we deserve it.' His work is entitled Vasa Lymphatica in homine super inventa, Hafniæ, 1654.


ded in 1652, was appointed honorary professor at Montpellier, and in 1801 pronounced his Discours sur le Génie d'Hippocrate. In 1802 he was appointed physician to the Emperor Napoleon, and soon after published a treatise, Des Maladies Goutteuses, two vols. 8vo., which is deemed in- dispensable in every dispensary. In 1806, after an attack of fever, he expired on the 15th of October, in the seventy-second year of his age.

He left behind him two works, which were afterwards published,—1. Traité du Poumon, one vol. 8vo. Paris, 1807; and 2. Traité de la Goutte, two vols. 8vo. Paris, 1808. (See Land, Exposition de la Doctrine Médicale de M. Barthès; Biographie Universelle; and Thomson's Life of Cullen, vol. i. p. 445.)

BARTHELONUS, ERASMUS, son of Caspar Bartholomew (known as an author, as well as several others of his sons and grandsons), born at Roßkild in Denmark, 1522; died in 1698. He was professor of geometry, and afterward of medicine, at Copenhagen. (See Biog. Univ.) His principles, which were one of the treatises on geometry, by which he left a mark upon the mind of the world, was the work of his father's Anatomy of the Nose, which he published in 1614, 1 vol. 8vo. He commenced his career as a physician, but he showed great ability, and was appointed physician to the King of Denmark, and continued to be the common text-book of students until the publication of Verheyen in 1693. Another valuable publication is the Historia Anatomica Consensus VI., of which there is a complete analysis in Hahn's Bibl. Chir. He was also a writer on the history of his family, and his work is entitled Erasmi Barthsi Historiam, which kind, but consisting entirely of moral appearances based on dissection, was unfortunately destroyed by the flames. This mode of extending our knowledge was enforced by a subsequent work, Compendium Anatomicum practicum ex condita morborum adorum, cum Opera Anseri Barthii, Editorum Catalogo, Hafniæ, 1674, 4to. Another interesting work, though of an earlier date, is De loci Humorum et Brutorum, Leiden, 1647, 8vo. et Hafniæ, 1648, 8vo. (See Biog. Univ.)

He died at Copenhagen, 4th December, 1649, in the sixty-fifth year of his age, leaving behind him five sons and three daughters, most of whom became distinguished for their talents and learning.

(Bernard, in his Mittheilugen: Haller's Biographie Medica, and B. Anatomica.)

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An account of the work is entitled Dissertatio anatomica de lymphaticis novis Bistronorum observationibus opposita, Hafniæ, 1661, 8vo. Up to the time of Bartholomeus the liver was supposed to be the sole organ of nutrition, and the blood which he discovered in this and other works. In 1651, his health was so precarious that he resigned his professorship, and retired to the country, of which he was extremely fond. Surrounded by his books, he hoped to spend the remainder of his life in study and tranquility, but in 1676 a fire destroyed his house, his library, and his manuscripts. After this unfortunate event he returned to Copenhagen, where the king appointed him physician; but he died the same year without having an exemption from taxes. The University of Copenhagen nominated him librarian; and afterwards, in 1673, the king appointed him a member of the grand council of Denmark.

He published many successive editions of his Anatomia, which was then translated into various languages, and it continued to be the common text-book of students until the publication of Verheyen in 1693. Another valuable publication is the Historia Anatomica Consensus VI., of which there is a complete analysis in Hahn's Bibl. Chir. He was also a writer on the history of his family, and his work is entitled Erasmi Barthsi Historiam, which kind, but consisting entirely of moral appearances based on dissection, was unfortunately destroyed by the flames. This mode of extending our knowledge was enforced by a subsequent work, Compendium Anatomicum practicum ex condita morborum adorum, cum Opera Anseri Barthii, Editorum Catalogo, Hafniæ, 1674, 4to. Another interesting work, though of an earlier date, is De loci Humorum et Brutorum, Leiden, 1647, 8vo. et Hafniæ, 1648, 8vo. (See Biog. Univ.)

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(See Bernhard, in his Mittheilungen: Haller's Biographie Medica, and B. Anatomica.)
adventurers of the ancient faith; while in France, a Protestant meant not merely one who shook off the papal authority, but who denounced the pope as antichrist, and the ceremonies of the Roman church as the worship of Belial. In the social and political condition the Huguenots closely resembled the English Puritans of the seventeenth century. Like them, disinherited and execrated, and at length persécuted, by the Court, the French Huguenots became a distinct people in their native country, abhorring and abhorred by their Catholic fellow-countrymen; united to each other by the closest ties of religion and blood, and at war with the world, singing solely and implicitly, in peace and in war, to the guidance of their own leaders. The wars between these irreconcilable parties were, as might be expected, frequent and bloody.

In August, 1570, a treaty of peace was concluded between the French king, Charles IX., and his Huguenot subjects. This was the third contract of the kind that had been entered into between these parties within eight years. The two first were shamefully violated as it suited the purpose of the stronger party. It was natural therefore that the Protestant leaders should feel very distrustful as to the motives of the Court with regard to the new act of pacification; and this distrust was increased by being lessened by the circumstance that the overtures were pressed with a vigour, and that the terms of the treaty were unusually favourable to the Huguenots. The veteran Coligny [see COLIGNY] Admiral of France, however, lent all the influence of his authority to the spread of the treaty. One blow was thrown toward making the avowed object of the treaty. He was earnestly pressed to court; but suspicious of the Queen-mother, the celebrated Catherine de Medici, and of the party of the Duke of Guise, he refused the invitation, and retired to the stronghold of Blois. At the request of the young Prince of Navarre (afterwards Henry IV.), Condé, and other chiefs of the Protestant party. This distrust, however, of the admiral, was entirely effaced before the end of the second year from the date of the treaty, the 15th of January, 1571, but twenty years of age when he ostentatiously sought to be reconciled with his Huguenot subjects. The peace was emphatically called his own peace, and he boasted that he had made it in opposition to his mother and other counsellors, saying, he was tired of civil discord. He and convinced them, from experience, of the impossibility of reducing all his subjects to the same religion. His extreme youth—his impetuous and open temper—and, if we may believe Walsingham, who was the English ambassador at Paris at the time, the unsettled state of his religious opinions, inclining to those of the new religion,—naturally operated in removing the distrust of Coligny. Contrary to what had happened after former treaties, pains were taken to observe the articles of the peace. The English puritans of the seventeenth century. Charles spoke of the admiral in terms of praise and admira-
mation: the complaints of the Huguenots were listened to with attention, and their reasonable requests granted; and their friends were in favour, while their enemies were in appre-
ciation. Early in the year, 1571, which followed the treaty,
the admiral spoke of the Huguenot head of the prince, and though the pope refused to grant a dispensation for the marriage, and the Spanish
Court and the Guises strongly opposed it, he persisted in bringing it about, threatening the papal nuncio that he would have the marriage performed without a dispensation, if the pope continued obstinate in withholding it. He en-
larged the personal ambition of the admiral on his side, by offering to the English princess every advantage for her marriage. This was in the interest of the Princess of Orange, who was to be presented to the Prince of Orange by the Prince of Orange, and she was induced to enter into a Corresponding offer with the Prince of Orange against the King of Spain.

Charles again, in the summer of 1571, earnestly solicited the admiral to repair to court. The letter of invitation, written in the hand, was entrusted to Tintagly, the admiral's son-in-law. It was backed by warm solicitations from Montmorency, the admiral's near relation, and the Marshal de Coesse, his intimate friend. Coligny's apprehensions were allayed by these assurances, and in the month of July he repaired to Blois, where Charles held his court. His reception was apparently the most cordial and respectful: he was restored to all his honours and dignities, and given a present. The king called him "Father," and in a tone of great emotion added, "We have you at last, and you shall not escape us.

This apparent favour of the king towards the admiral continued without interruption for many months. When he absent from court, Charles maintained a correspondence with him by letters; and in their private conversations, at least affected to unbosom himself without reserve to his new friend; cautioned him against his mother and her Italian favourites, spoke disparagingly of his brother Anjou, and in giving him the marquisate, freely described his faults and cen\ntured their vices. Coligny was completely won by this frank demeanour of the young king, and employed his influence to induce the other Huguenot chiefs to repair to court. Though repeatedly warned of his danger, he never heard of his own. "Father," said he, "than renew the horrors of civil war, I would be dragged a corpse through the streets of Paris."

The marriage of Henry of Navarre with Margaret, the king's sister, was celebrated with great pomp on Monday the 5th of August, 1572. The ceremony was performed in a temporary building near the cathedral of Notre Dame. The Tuesday, Wednesday, and Thursday were passed in all sorts of festivities. On Friday the 22nd, Coli-
gny attended a council at the Louvre, and went afterwards with the king to the tennis-court, where Charles and his brother Anjou played Duke of Guise, and the other Huguenot gentlemen. As he walked slowly home, reading a paper, an argusius was discharged at him from the upper window of a house occupied by a dependant of the Duke of Guise, and it passed through his left arm. The king was still playing at tennis when the news of this attack reached him. He threw down his racket—exclaiming: 'Shall I never have peace? and retired apparently devoted to his apartment, and the surgeons assembled at his bedside. The news of the attack was soon conveyed to the Queen, who accosted the surgeon, and asked, how was the king. He was hardly out of danger, and his life was in great peril. The Queen was for refusing to speak with the king alone, and Charles commanded his mother and brother to remain at a distance. Catherine afterwards acknowled-
ged that she never saw a sick man in such a situation, who had been so experienced. 'Her consciousness of guilt, the interest with which Charles listened to the admiral, the crowds of armed men in constant motion through the house, their looks and whispers and gestures, all conspired to fill her with terror. Unable to remain any longer in such a situation, she interrupted the conversation, by pretending that silence and re-
pose were necessary for the recovery of the admiral. During her return in the same carriage with the king, she em\ntioned to him how she had heard the admiral advise him not to let his mother and brother have so much of his authority.

On the first news of the admiral's wound the Huguenots repaired in crowds to his residence, and offered their services, with menacing language against the Guises—the suspected assassins. A royal guard was placed to protect the house of the Princess of Orange. But the admiral, in a similar pretence of regard for his safety, the Catholics were ordered to evacuate and the Protestants to occupy the quarter in which he resided.

The attempt at assassination was not the work of the Guises: it was planned by the Duke of Anjou, the Duchess of Nemours, and the queen-mother. The father of the Duke of Guise, and first husband of the Duchess of Nemours, was assassinated by a Huguenot fanatic, who alleged that he had not been properly baptised. Coligny always maintained since that event Coligny always felt that his life was in danger from one who, whether justly or unjustly, regarded him as the murderer of his father. The attempt at assassination having failed, the conspirators drew up a manifesto, to be prefixed on all sides, in a secret conference. Baffled revenge and the dread of vindictive retaliation augmented the ferocity of their counsels. On Saturday after dinner, the hour for which at that time was noon, the queen-mother was seen
to enter the king’s chårmer: Anjou and some lords of the Catholic party joined her there soon afterwards. According to Charles’s commands, Alva was named Viceroy of the Low Countries. In December, he was then suddenly informed of a treasonable conspiracy on the part of the Huguenots against himself and family; and was told that the admiral and his friends were at that moment planning his destruction, and that if he had not been in the Low Countries at the time of his visit, and if he waited till the next morning, he and his family might be sacrificed.

Under this impression, he states, he gave a reluctant hurried consent to the proposition of his counsellors, explaining, as he left the room, that he would receive the admiral to his house. He would save the admiral’s life to reproach him with the deed. The plan of the massacre had been previously arranged, and its execution intrusted to the Dukes of Guise, Anjou, and Armorial, Montpensier, and Marshal Tavannes.

The massacre was carried out on the 11th of January; all appearance of a peaceful assembly at the Louvre. A short time before the signal was given, Charles, his mother, and Anjou repaired to an open balcony, and awaited the result in breathless silence. This awful suspense was broken by the report of a pistol. Charles shook with horror—his frame trembled, his resolution failed him, and cold drops stood upon his brow. But the die was cast—the bell of a neighbouring church tolled—and the work of slaughter commenced.

Early during the morning. Before five o’clock the admiral and his friends were murdered in cold blood, and their remains treated with brutal indignity. Revenge and hatred being thus satisfied on the Huguenot chiefs, the tocsin was sounded from the parliament house, crying out, 'Long live the King! Long live Charles!' The officers of theLow Countries were ordered by the king to protect their religion and their king against Huguenot treason. It is not necessary to enter into the details of this most pernicious business. The death of the Huguenot generals and officers was followed by the massacre of the French army of the Low Countries. The fury of the court was thus succeeded by the horrid depredations of the Parisian populace; and the Huguenots were butchered in their beds, or endeavouring to escape, without any regard to age, sex, or condition. Nor was the slaughter wholly confined to the Protestants. Secret revenge and personal hatred embraced that favourable opportunity of gratification, and many Catholics fell by the hand of Catholic assassins.

Towards evening the excesses of the populace became so alarming that the king, by sound of trumpet, commanded every man to return to his house, under penalty of death, excepting the officers of the guards and the civic authorities; and on the second day he issued another proclamation, declaring that he would put to death, without trial, all such as should be found guilty of pillage another, unless duly authorized. Indeed it would seem that the massacre was more extensive and indiscriminate than its projectors had anticipated; and that it was necessary to shew the disorderly fury of the populace. The slaughter, however, continued for three days. On the evening of the first day, Charles despatched letters to his ambassadors in foreign courts, and to all his governors and chief officers in France, bewailing the massacre that had taken place, but imputing it entirely to the private discontents between the houses of Guise and Coligny.

On the following day, the 24th, he wrote to Schomberg, his agent with the Protestant princes of Germany, that having been apprised by some of the Huguenots themselves of a conspiracy formed against himself and his family, he had been forced to sanction the counter attacks of the houses of Guise, in consequence of which, the admiral, and some gentlemen of his party, had been slain; since which, the populace, exasperated by the report of the conspiracy, and incensed at the restraint imposed upon the royal family, had been guilty of 'violent excesses, and, to his great regret, had killed all the chiefs of the Huguenots who were at Paris. France, he said, was in a state of alarm and confusion — the parlement of Paris, and slewed himself the author of the massacre, claiming to himself the merit of having thereby preserved his kingdom; he denounced the admiral and his associates, and in his own character of a trained soldier he had timely defeated a conspiracy to murder the royal family in the temple of the Bastille. These are the leading facts of the Barthélemy Massacre.
that his friends would have died from Paris to a place of safety — at all events, they would not have been butchered by the Reign of Terror. On the contrary, it had been retroactively ordered by the Committee of Public Safety that, if the death of the admiral was the sole or chief object of the executions in the court, why did they defer so long or attempt it as being a way? The Italian writer Davila has furnished a revised and conclusive explanation of this difficulty, characteristics of the French Revolution. According to this hypothesis (which is in some degree adopted by De Thou), the plan of Catherine and her secret council was, that Coligny should be assassinated under such circumstances as to fix the guilt of his death on the Huguenots, in the hope that the Huguenots would immediately rise in arms, and with their vengeance upon the Guises; and that object having been obtained, that they would in turn be themselves overpowered and massacred by the royal forces. By this means the Guises would become as one, and the alliance of Guise and Chatillon, both equally obnoxious to the Court. But we agree with Mr. Allen that this hypothesis is too refined and uncertain a speculation even for Catherine, and that the difficulty is not explained by it. To our minds the difficulty can be explained only by the supposition that Charles was not only not privy to the design of the massacre, but that its plotters were doubtful of obtaining his consent. His occasional ferocity during and after the massacre, and the severity with which he dealt with people of both classes with respect to their origin, are by no means contradictory to this supposition, which moreover receives considerable support from what Sully tells us of his subsequent remorse. While the massacre was going on, Charles seemed like one possessed. A fever is said to have seized him, and he had many other means than this marriage of taking vengeance on my enemies, I would not persist in it; but I have not. Cardinal Alexandrine was hardly gone from court, when the watch were asleep or were drunk, or directly arrived at Blois to conclude the marriage. Charles received her with every demonstration of affection and cordiality; boasted to her that he had treated the man who came to break off the marriage as his impudence deserved; adding, that he had not even suffered his day of his marriage to the Guises, in order to remove all doubts on their minas as to the peace. And again, my Aunt, said he, I honour you more than the pope, and I love my sister more than I fear him. I am no Huguenot, neither am I a fool; and if Mr. Pope does not mend his manners, I will myself give away Margery in full conventile. (Mathieu; Mémoires de l’Isle.)

It was on this occasion, according to De Thou, Sully, and others who have written on the subject, as said to have extorted from his mother — Have not I played my part well? — Yes, said she; but to commence is nothing, unless you go through. Leave it to me, he replied, with an oath. I will not tell you for every one. Others postpone this marriage, or put it off on both sides. Monseigneur, a MS. in the Bibliothèque du Roi, quoted by Mr. Allen, adds, That be complained of the hardship of being obliged to dismiss so long. There is one other truth of parade, among many told of him, which we shall quote, and leave to speak for itself.

On the evening of St. Bartholomew, and after he had given his orders for the massacre, he redoubled his kindness to the King of Navarre, and desired him to introduce some of his best officers into the Louvre, that they might be at hand in case of any disturbances from the Guises. These officers were butchered next morning in his presence.

That the peace of 1570 was, so far as Catherine de Médici and her party was concerned, a piece of treachery, goes without saying. The plot was laid as the means of their destruction, is the most universal opinion of historians, and is admitted by those who deny that Charles had any guilt share in the transaction: De Thou alone hesitates to admit that long-mediated treachery. Opinion as to the presence of Catherine de Médici in the massacre is, in the general design to cut off the leader (the tête de cesassion de Alve) of the Protestant party. One great difficulty presents itself. The attempt upon the life of the admiral alone interested Catherine de Médici, but not Anne of Austria, and the great dangers of the massacre. If they really designed from the first a general massacre, why did they run the very great risk of defeating their purpose by cutting off the admiral alone without the other leaders? If the admiral had fallen at the instant by the hand of the assassin, is it not highly probable as to present, to the relief of the sick and maimed. In the
The island of St. Bartholomew was first settled in 1649 by a colony of Frenchmen, who went for that purpose from St. Christopher's. In 1689 it was taken by the English under Admiral Thornhill, and remained in their possession until the peace of 1697, when it was restored to France. In 1745 the island was again taken by the English, and the enemy were given up under the treaty of Aix-la-Chapelle. In 1782 the island was ceded by France to Sweden, and it has since continued subject to that power. The population of the island is about 900; two-thirds of that number are engaged in cultivating the land belonging to the planters, the greater part of whom are Frenchmen.

(Thompson's Alceda; Purdy's Columbiad Navigator; Malham's Naval Gazetteer.)

BARTIN or BARTIN, river. [See PALTARIN.] BARTOLOMEUS DABOLNA, was born at Formentera, in Majorca. At the age of fifteen he entered the Order of the Jesuits. After passing through his preliminary studies, and making his vows, he was very desirous to go to India, to join the missionaries of his order, who were then engaged in spreading Christianity through the East; but having judged that he would be more useful at home, employed him as a preacher in various parts of Italy. As he was proceeding to Palermo, to preach there during the Lent of 1600, he was taken ill, and afterwards continued his voyage in another vessel. Although he had lost the MS. of his sermons, he contrived, by means of a few fragments which he had preserved, and with the assistance of a good memory, to go through his sermons, and the whole of the First Vespers Office; and after he arrived at Formentera in 1650 he was sent for to Rome by the Father-General, and commissioned to write the history of the Order in the Italian language. He divided his subject by treating successively of the different parts of the world in which the Order has established a large number of convents, and wrote his Historia della Compagnia di Gesù, l'Anna, parte seconda, fol. Roma, 1633. In this volume he treats of the first missions sent by the Jesuits to the East, beginning with Francis Xavier, and continuing his history by year during the lives of Valenza, Jean de Brebes, and other practitioners to the various students who attend the hospital in order to obtain a practical knowledge of the profession. The principal gate of the hospital is in Smithfield, and is of earlier date than the rest of the buildings, having been erected in 1702. It consists of a rustic basement in which there is a large archway. A statue of Henry VIII. is placed on a pedestal in a niche over the key-stone, guarded on each side by two Corinthian pillars; above these pillars there is on each side an interrupted semi-circular pediment, on a large pedestal. The figures, designed to represent Lameness and Disease. The whole gateway, which has very lately undergone a thorough renovation, is surmounted by a triangular pediment, on a large pedestal. The book contains a staircase. The staircase of the hospital was painted gratuitously by Hubert: the subjects are the Good Samaritan; the Pool of Bethesda; Rahere laying the foundation; and a sick man carried on a litter, attended by monks. (Byrke's Stone of the Surgery of London; Martial's History of London; Malcom's Londinum Redivivum; Highmore's Public Charities of London.)

BARTHOLOMEW, ST., one of the Antilles, in 17° 53' N. lat., and 62° 54' W. long., being the islands of St. Martin on the north, and St. Christopher's on the south, its distance from the former of these islands is 12 miles, and from the latter 28 miles. St. Bartholomew is of an irregular shape. Its greatest length is east and west, its greatest breadth is about 10 miles. The shores are rocky and dangerous, and should not be approached without the assistance of an experienced pilot. It contains only one port, Le Carénage, which, however, is very safe and commodious; it is on the west side of the island, and near his harbour is a town called Gustavia, which is inhabited by a very mixed population of Swedes, English, French, Danes, and Americans. There are no springs on the island, and the sole dependence of the inhabitants for water is upon the rain; they have, in some dry seasons, been compelled to import water from the neighbouring islands.

The soil is good, and produces sugar, cotton, tobacco, maize, and potatoes. Some limestone of peculiar quality is quarried and sent to the West indies, where it is used for building purposes. There is abundance of wood in the island, including lignum-virum and iron-wood.

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(Thompson's Alceda; Purdy's Columbiad Navigator; Malham's Naval Gazetteer.)
the history of the first century of the Society of Jesus. He wrote also several books of morality: _La Ricreazione del Savio_; Milano, 1640; being considerations on the wonders of nature, from which he derives moral and religious arguments for the conduct of a wise man. _Della Geografia traendosi dal compimento_ (1644) is on the principle as the preceding, in which the author indites very freely in allegory and other figures, according to the taste of the Italian writers of the seventeenth century, which fault, however, was avoided in his historical works. _L'Uomo di Lettere del Zeal_ is in 5 books. He encourages studious men who labour under poverty and neglect; shows the advantages of learning over ignorance, condemns plagiarism, and gives much excellent advice to men of letters, their conduct, their habits, and their style. This work has been translated into English, by Thomas Salisbury, 8vo., London, 1668. It also went through many editions in Italian.

Bartoli wrote treatises on several physical phenomena—on sound and hearing, _Del Suono_, de' Tramonti armonici, e dell'Uditò, 4to, Rome, 1679; on ice, _Del Ghiaccio_, and of the _Congelazione_, 4to., Rome, 1681; on the depression and expansion of quicksilver in tubes, _La Tensione e la Pressione disquilibi del loro sodalito con l'Argento Vivo ne' Can- selli dopo fattone il suo_, 12mo., Venice, 1679.

Bartoli also wrote several works on the Italian language: _Il Torto o il Deritivo del non se', 12mo., Rome, 1655, a work much esteemed_; and _Dell Ortografia Italiana_, ibid., 1668. These works are published in a second edition, _Cincono, Osservazioni sulla Lingua Italiana_, one of the best works on Italian grammar. An edition of Bartoli's minor works, including some of his sermons, was published at Rome, 1667. He first visited the east, where he spent a short time, and then proceeded to Asia, Japan, and China, after having become very scarce, and having fallen into unmerited oblivion, has been of late years strongly praised and recommended by Italian philolo- gists, as one of the best specimens of his country. In consequence of this, a second edition of Bartoli's works has been lately brought out in Italy.

Bartoli was appointed Rector of the Gregorian or Roman College, in 1671. He died at Rome, in January, 1685, aged nearly seventy years. (Mazzucchelli, _Scrittori d'Italia_, and Bartoli's works above quoted.)

**BARTOLOZZI, FRANCESCO.** This distinguished engraver was born in Florence in 1730, though some accounts give the date earlier. He received his first instructions in drawing under Gaspone Bigio and Ignazio Hugford, in the Florentine academy. Here his acquaintance commenced with Giovanni Cipriani, with whom his name became afterwards intimately associated by their joint residence at Rome. Bartolozzi began engraving under Joseph Wagner, of Venice, and when the artist died, he took his engagement with that master had expired, he married a Venetian lady, and went to Rome, whither he had been invited by Cardinal Borri. Here he established his repu- tation, and, having formed a large and valuable collection of original engravings, was appointed by a series of portraits for a new edition of Varari. Having completed these works he returned to Venice, where he was engaged by Mr. Dalton, librarian to George III., to engrave a set of engravings by Mr. Gisborn, Mr. du havin accomplisched, that gentleman invited him to England to continue engrav- ing for him on a stipend of 300l. per annum: this offer Bartolozzi accepted, and the series of plates from Guercino were completed in this country. Some of the earliest engravings of this master, which he executed himself in England were designs for tickets for the select performances at the Opera House; and he evinced so much talent in these limited subjects, and obtained such popu- larity, by the judicious use of the medium of the engraving Strawer, that he procured the incapable of executing anything else. This liberal remark brought on its own refu- tation. Bartolozzi immediately commenced his engraving of Clytie, after Annibale Carracci, and that of the Virgin and Child, after Guercino in the orphan as an executed and the highest degree brilliant and spirited, and would alone have been sufficient to establish the name of Bartolozzi as an engraver of the very highest order. A style of dexterous engraving prints from the use of all the resources of a masterly mind, and a conscientious practice, the success of which was in great measure attributed to the example of Bartolozzi; but this slight deviation from sound taste was simply atoned for by the correctness and beauty of his general style. His correct drawing, and especially the accurate finishing of the extremities of his figures were much admired by Sir Joshua Reynolds, and recommended by him not to lose the advantage given by the education of the students of the English school, which at that time was extremely deficient in those points. Bartolozzi engraved a prodigious number of the paintings and drawings of the great masters; and the perfection of his art was such, that true draughtsmen, no longer disguise under such a name the works of foreign masters, but attach their names to their productions. The power of producing an excess of softness and finishing incompetent with vigorous style; but this objection must be chiefly against the painter. Bartolozzi showed that when engaged on the works of more efficient masters he could transmit them to the copper with the same effect. The result of his labours is seen in the print of Clytie above-mentioned, and in those of Prometheus devoured by the vulture, after Michael Angelo; the Adulteresse before Christ, after Agostino Carracci; Rebeccas hiding the idols of her father, after Pietro da Cortona; St. Luke painting the portrait of the Virgin, after Cantarini; King John ratifying Magna Charta, after Mortimer; Cor- nelia, mother of the Gracchi, after West; The Death of Lord Chatham, after Copley. Various other examples might be adduced. One of Bartolozzi's earliest impressions was the one of Boydell, for whose Shakespeare Gallery he engraved a number of fine plates. Among his minor works, his etchings in imitation of the great masters, and of the Marlborough gloves and statues, are very remarkable.

In the year 1692 Bartolozzi received an invitation from the Prince Regent of Portugal to settle at Lisbon, as super-intendent of a school of engravers, with a salary of 100l. per annum, to which was annexed a handsome residence and the profits of the engravings. It is asserted, but can only be very specific authority, that an offer of 400l. per annum was made him as an inducement to him to remain in England, but that he refused the proposal, except on condition that government would explain the affair to the Prince Regent of Portugal. This interference was con- sidered improper, and Bartolozzi left England in his 75th year, and was received at Lisbon with all the respect due to distinguished talents. He died in that capital in his 89th year.

Few engravers have attained a higher reputation than Bartolozzi, and he had the good fortune to be fully appre- ciated during his lifetime. Considering the immense num- ber of his works, and their wide distribution, it seems extraordinary that he should have failed in acquiring independence; but his failure, however, was so complete, that it is said that he was compelled to accept his Portuguese appointment by great entreaties and solemn assurances. His principal character was in the highest degree amiable, and it may be mentioned, among many other instances of his kind and generous disposition, that he finished gratuitously a plate which had been commenced by Ryland, and had been rejected by him. This plate was engraved under sentence of death for forgery. Several of Bartolozzi's pupils rose to eminence; among them, Cheeseman, Sher- win, Tomkins, and the two Vendramini. (Arnold's _Annals of the Arts_.)

**BARTON, BENJAMIN SMITH,** was born in the year 1756 at Lancaster, in Pennsylvania. His father was a respectable episcopal clergyman, who divided his time between the duties of his sacred office and the pursuit of the study of mineralogy; but he ultimately died when the subject of this notice was only fourteen years old, leaving his children so ill-provided for, that the early part of his son Benjamin's life was an incessant struggle with want and poverty. He was appointed a teacher in the academy under sentence of death for forgery. Several of Bartolozzi's pupils rose to eminence; among them, Cheeseman, Sher- win, Tomkins, and the two Vendramini. (Arnold's _Annals of the Arts_.)
ever after his father and supporter. In the words of his protegé, written at a late period of the life of the latter: "He laid the foundation of that little prosperity in life now or may in future enjoy; and if it shall ever be my fortune, either by my labours or my zeal, to add anything to the scope or to reflect any honour upon my country, I should be the most ungrateful of men if I did not acknowledge and wish it to be known that it was David Rittenhouse who enabled me to be useful."

In 1820, Mr. Barton accompanied his father to Edinburgh, where he remained about two years; owing, however, to some dissatisfaction with two of the professors, he who fancied did not show him sufficient attention, he went to Göttingen to graduate, although he had distinguished himself at Edinburgh by gaining the Harveian prize of the Royal Medical Society for his dissertation on the medical qualities of the hemburne. Upon his return from Europe Dr. Barton established himself in Philadelphia as a physician, and soon found some practice. His reputation soon spread, and, in a natu realistic light, he ventured his studies into botany. He was appointed professor of natural history and botany in the college of Philadelphia, and thus was the earliest teacher of natural science in the transatlantic world, an office which he held during the next six and twenty years, discharging annually through the different sections of the United States a number of well-grounded naturalists, who must have contributed most essentially, by their taste and pursuits, to foster among the Americans that love for the cultivation of science from which they are now deriving their reputation among foreign nations. In 1802 Dr. Barton was elected vice-president of the American Philosophical Society; when thirty he became president of the institution. In 1806 Rush succeeded him in the chair of the practice of medicine, which he held till his death; and in the year 1809 he became president of the Philadelphia Medical Society, the highest mark of respect for professional talent which it was in the power of his fellow citizens to bestow. In a short time, however, his incessant labours, and the heavy duties of his professional avocations, which, as his biographer observed, had been performed with a fatal degree of self-denial and public service in the constant and regular gave way beneath the perpetual struggle between grave bodily infirmity and an ever-recessing mind; till at last, after visiting Europe in vain attempt to restore his shattered powers, he died in December, 1815, having long since become in a way a subject of national and useful to his country. The writings of Dr. Barton consist chiefly of papers upon various subjects relating to the natural history and antiquities of North America, and to the scientific progress, which passed through two American citlons. They all evince an ardent zeal for favourite pursuits and a scrupulous exactness in the statements he put forth; and they must have contributed in a most powerful degree to the advancement of North America. In 1802, believing many mistaken, he was the first person to notice the curious powers of a plum tree when stepped on; to revive faded flowers, showing it to be a vegetable stimulant of peculiar energy. "I have learned that to distrust is nervous apathy," said our celebrated countryman John Ray; "this most impertinent principle was acted upon by Dr. Barton in a manner which showed the soundness of his mind and the goodness of his judgment. "Credibility," he used to say, "is the most important ingredient of a historian." His influence in one individual is often felt and propagated through many ages. Unfortunately, too, it has been the sin of naturalists, or those who have touched on questions relative to natural history, when his correctness. In the pursuit of their object, he found no thing interfering with the true value of assistance to those labourers in science to whom fortune had been unpropitious; among his many acts of liberality ought to be mentioned two: the first, which has been attended with permanently valuable results. At his private charge the late Frederick Pursh was sent to the Alleghany Mountains and the western territory of the Southern States for the sake of exploring their vegetable productions: on which occasion he acquired the most valuable part of the materials from which he subsequently prepared his American Flora. A late period Dr. Barton enabled Mr. Nuttall, in 1810, to visit the northern and north-western parts of the United States and the adjoining British territories with a similar object in view. The results of his researches from this also are well known from the works both of Pursh and of Nuttall himself. These two botanists agreed to name one of the forms of their discoveries Bartonia, in honour of their patron and benefactor; it was never seen by him in the flower, but its name is preserved and the honor is due to one of the most celebrated European botanists.

BARTON, ELIZABETH, the "holy maid of Kent." Respecting the early life of this woman we possess no accurate information. She was born in the humble capacity of servant at an inn at Aldington in Kent, she began to acquire a local reputation for sanctity and miraculous endowments. She was subject to fits of an epileptic character, and, in the paroxysms of her passion, her nurse reported to her master that she had imitated the example of Pursh by gratefully acknowledging his obligations to his benefactor in the presence of her husband, instead of making his memory the subject of a contemptible squabble. We are indebted for the principal part of this information to a Biographical Sketch of Professor Barton by his nephew, Dr. William P. C. Barton, himself a botanist of considerable reputation. He is the author of a useful Compendium of the Flora of Philadelphia, and his quarto on the Vegetable Materia Medica of the United States, a work of great value; and of a Flora of North America, in three volumes, 4to. published between 1821 and 1824. The botanical plates in these last two works are largely drawn from the bed of the celebrated European botanists, and will bear comparison with those of the most celebrated European botanists.

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as it was reported that a miracle was wrought in her, he
was not, and would not be held in judgment the matter.
This was in the early part of her career, during the
sequent seven or eight years. More states that he continually
heard 'much talking about her, although no miracle or
revelation,' and was informed, moreover, that she had had a
vision as a youth, both of Wolsey's death and of the
king. To the cardinal she said that in a vision she saw the
Almighty deliver into his hands three swords, one of which
signified the authority which as legate he exercised over the
church; the second, his rule as chancellor over the tem-
porality; the third, his position as the great minister of
the king's marriage; and heard Him at the same time declare
that unless Wolsey employed these swords properly,
he should be laid sorely to his charge. The prediction
looked like the beginning of a dangerous character,—that if he
were to repudiate Catherine and marry Anne Boleyn,
we must expect a storm. But it was not till many days
later that Henry published the act, breaking with Rome,
and annulling the marriage, which had been previously
seven months, and he succeeded on the throne by his
daughter Mary.

In the course of the year 1533 Sir Thomas More had an
interview with the holy nun at the chapel of the friars at
Sion. The result was, that he thought heaven was working
'some good and great things by her. She told him, among
other strange things which threw light on the state of our
national life,' that of late the devil, in the likeness of a
bird, was flooding the royal palace and church with
sorceries, and that he had suffered himself to be taken, and in birds suddenly
changed in their sight that were present into such a strange,
ugly-fashoned bird that they were all afraid, and threw him out of the window. At that time, shortly be-
fore his execution, changed his tone, and added, 'Thou told
in his letter to Cromwell, to be a 'lewd nun' and a hypocrite.

Had this poor creature confined her prophecies to the
common occurrences of life, or even to the current topics of
religious controversy, it would have been probable that
she would have been permitted to die in peace; but, led by her
seal, or more probably worked upon by others, she boldly
prophesied against evil-doers in high places, and in refer-
eence to the divorce from Catherine and marriage of the
king with Anne Boleyn, she prophecied, in case of his
marriage with Anne Boleyn, that the king would have a
son, and that she would not have long to live. By revelation from heaven that God was highly displeased
with our said sovereign lord, and that if he proceeded in the
said divorce and marriage and married again, he should no
longer be king of this realm; and that, in the estimation of
Almighty God, he should not be king one hour, and that he
should die a villain's death.' She was at the time so popular,
and so extensively patronized by many of the clergy, and
such pains were taken on their part to diffuse her sen-
timent respecting the divorce, that the length of the trial
was protracted. The court was told that she had
only to be held in public reproof as impostors at St. Paul's Cross. It
is stated by the more zealous anti-Romish writers, that the nun
did confess herself to be an impostor, and that she
was tempted to claim inspiration at the instigation of the
devil: but it is much more probable that a false confession
was obtained from her with the hope of saving her life,
than that a simple woman should have contrived and carried
on, for many years, a system of complicated mental and
physical imposture. Linard admits that she confessed
her guilt, but also that she had been of her own accord

But the nun's confession, whatever were its motives,
avoided her nothing. From the pillory she and her
companions were led back to prison, where they lay till the
trial, even when they were attainted of high treason. It was thought that as the imposture had been doubly
proved,—by the alleged confession, and by the fact that the
king had outlived the period assigned him by the
prophesies—that no additional punishment would be inflicted;
but not until some days after the trial, they were
condemned to death. On the 21st April, 1534, the nun was beheaded at Tyburn,
together with the five priests.

There are some small discrepancies in the accounts of this
wonderful imposture, and in the manner of her execution and
accompaniments. The credit and countenance which Fisher,
Bishop of Rochester, and Sir Thomas More had given to
her, were among the articles of accusation against these two
persons. See More, 3 X 2.

BARTON-UPON-HUMBER is a market-town of the
county of Lincoln, in the wapentake of Yarborough. It is
situated on the south side of the Humber, 133 miles north
from London, and 33 north by east from Lincoln. The
lordship of Barton contains 6710 acres, and the manorial
estates belong to the Humber. Barton is notable for its
antiquity. It was once surrounded by a rampart and fosse,
the remains of which are still visible in what are called 'the
castle dykes,' and was probably otherwise fortified against
the Danish invasions. Barton and Saxton, who often waged
the country on both sides the river. At the time of the
Norman Conquest, Barton was a place of some importance,
and one of the principal ports of the Humber. It was
then a corporate town, governed by a mayor and aldermen;
and, at the time of the foundation of the chantry of St.
Peter's in the year 1208, it had a considerable share of trade,
which afterwards gradually declined. When Edward III. required the sea-port to
contribute ships and men for his expedition against France,
Barton contributed five ships and ninety-one men; but at
that time many of our present sea-ports were
were not even mentioned. It is now principally noted for
being the place where the northern road passes the Humber
to Hull; and the improvements which have been made in
the town have increased it in trade. The packets cross and re-cross the river every morning and
evening, the distance being about six miles and a half to the opposite bank. Although there is property
belonging to one parish in Barton, it contains two large churches, the
respective distance of which is proportionately slight.
In fact, the town is noted for its
By the merchants of Barton as a chapel of ease
to the older church. The churches are kept in repair by their
separate districts, and service is performed alternately at
both. The town, with several good inns; but, besides the churches, it contains
several places of public service that require notice. A court-leet is held
quarterly at Barton for the cognizance of offences com-
mitted in the town and
make a decision in three weeks, for the recovery of small debts. A considerable trade in corn
is carried on in the town, and many of the inhabitants are
employed in the manufacture of bricks, tiles, Paris whiting,
ropes, and sacks. The town has a well-supplied weekly
market on Mondays, and another for fat cattle once a

day. The annual fair is held on the Thursday after
Trinity Sunday. Barton contained 776 houses in 1831,
with a population of 3233 persons, 1689 of whom were
bachelors. (Howlett's Select. of Firms in the eastern
coast of Lincoln; Historical and Descriptive Account of Lincoln-
shire, 1825-6.)

BARUCH, בֶּרְוּךְ, means, literally, blessed, and
corresponds to the names Macarius (Μακάριος) in Greek, and
Benedictus in Latin. Hence Baruch Spinoza called himself
Benedictus in the title of his Latin works.

Among the various individuals called by the name of
Baruch, none is so generally known as Baruch the son of
Neriah, the son of Maaseiah. This Baruch was the
scribe and assistant of the prophet Jeremiah. During the reigns
of Josiah, Jehoiakim, Jehoiachin, and Zedekiah, kings of
Judah, Jeremiah warned the princes and the people of the land of
Judah, denouncing their sins, exhorting them to repentance,
and foretelling the approaching calamity the judgments of the
Lord.

In the fourth year of the reign of Jehoiakim, about B.C. 607, while Jeremiah was closely confined, he received a
personal command from the divine oracle, which he was to utter in a roll. He accordingly summoned
Baruch, the scribe, who wrote from the mouth of Jeremiah
all the words of his former denunciations. Baruch received
from Jeremiah the further command to take the roll and
read its contents in both the interior and the entrance of the
temple. When the purport of the message contained in the
roll was declared to the princes, they summoned Baruch
into their presence, and caused him to wind the roll before
them. The awful tidings so deeply impressed the princes,
that they endeavoured to communicate them to the king,
advising at the same time both Jeremiah and Baruch to
seek safety in concealment. After having heard the com-
mandment, they set forth, and Josiah rode a great deal in
the fire, which was kindled on the hearth of the winter-house in which he sat. Josiah commanded his servants to apprehend both the prophet and the scribe; but they were already off.

At the destruction of Jerusalem, when Nebuchad-
nezzer led the Jews captive to Babylon, Baruch and his
master Jeremiah obtained permission to remain in Pale-
tine, and to choose their place of residence; but both were
afterwards carried into Egypt, by Joachim Ben Karaet, B.C. 588. (Comp. Jer. xxxii. 12–16; xxxvii. 4, 17, 27, 32; xliii. 3–4; xlv. 1, 2. Josephi Antiquitates, x. 9, 1.)

From some of these passages we learn that Baruch was
present at the destruction of Jerusalem. Concerning the
closest of Baruch's life there exists a diversity of opinion.
According to one tradition, Baruch died in Egypt; another
asserts that he went from Egypt to Babylon, and died there
twelve years after the destruction of Jerusalem, leaving a
certain Epistle to the chieftain of the Jews there, containing
it was originally written in Hebrew. It has been published,
with the rest of the Apocalypse, in a Hebrew translation,
by Sechel Isaac Frankel; Leipzig, 1858.

The book commences with an historical introduction, in
which it is stated that Baruch read this writing to the exile,
in Babylon, in the fifth year, on the seventh of the month,
at the time when the Chaldeans burned Jerusalem. We
read (in 2 Kings xiv. 8 and 9) that, 'in the fifth month, on
the seventh day of the month Chislev, which is in December,
the king of Babylon, Nebuchadnezzar, king of Babylon,
came Nebuzaradan, captain of the guard, a servant of the
king of Babylon, unto Jerusalem; and he burned the house of
the Lord, and the king's house, and all the houses of
Jerusalem burned he with fire.' Since it was generally known that Baruch was in Jerusalem during the siege of that city, and that he shortly afterwards accompanied Jeremiah into Egypt, it could not be supposed that he read his composition at Ba-
bylon in the days of the destruction of Jerusalem, therefore conjecture that the expressions in the commences-
tment of the book of Baruch imply that it was read at
Babylon on some anniversary of the destruction of Jeru-
salem.

This anniversary occurred, perhaps, many years after
the appearance of the composition of Baruch. The latter's composition could not have been written, for it was of
above the objection raised by the comparison of Baruch (i. 7), in which Joachim is styled the high-priest, with Kings (xxv. 18), in which we find that at the time of the de-
struction Jeremiah was high-priest.

The introduction states that 'Baruch did read the words
of this book in the hearing of Jechonias, King of Judah, and
in the ears of all the people, the elders, and the nobles that
came up to the book; whereupon they wept, fasted, prayed, and repented them of their sins, and searched and sent to
Jerusalem, to Joachim, the high-priest, the son of Chelcias,
the son of Shalum; and to the priests, and to all the people
who were found with him at Jerusalem, at the same time
weeping and praying, and causing the book to be read to
them. which was carried out of the temple, to return them
to the land of Judah.' In the tenth verse of the first chap-
ter commences the letter of the exiles to the Jews at Jeru-
salem. This letter contains an exhortation to pray for
the King of Babylon, to make fast the breach, to extend their sins, and to pray according to a certain form, which is
subjoined. It is not quite certain where the letter of the
exiles terminates and the real book of Baruch commences.
It seems, however, that the writing fades out at the ninth
verse of the third chapter; there, at least, a series of
reproofs of the Israelites, on account of their departure from
the law of God. This is succeeded by the assurance that
the sins having been punished, should not always remain in
misery. (Chap. iv. 6–8.) Then follows an elegiac
song of Jerusalem personified (chap. iv. 9–28), and a stanz
of consolation addressed to Jerusalem, containing a promise
of restoration. (Chap. iv. 30; v. 9.)

The authenticity of the book of Baruch was not recog-
nised either by the ancient Jews, or the fathers of the Chris-
tian church. But the anathematisation which some of them excludes it from the canon of the Old Testament.

To the editions of the book of Baruch now in use is sub-
joined a letter of Jeremiah to the exiles in Babylon.

In some manuscripts this letter is found separately. It
contains a denunciation against idolatry, and seems to be
the imitation of Jer. x. 1–16, and xxvi. 1–23. The second
verse of the second chapter of the second book of the
Miscellaneous seems to refer to it.

The version of the book of Baruch found in the Vulgate
was not executed by Jerome, but is a mere anastomosis
Joseph Maria Caro published another old Latin version,
at Rome, 1688, 4to. The London Polyglott contains a
Syriac and a Latin version of Baruch. In the Paris Poly-
glott is a Syriac version of a book of Baruch, different from
the Greek copies.

Further information concerning the book of Baruch
may be found in the Introduction to the Old Testament,
by Kiechhorn, John, Barthold, De Wette, and others. (Grun-
berg, Exercitio de Libro Baruchii Apocalypse, Göttingen, 1795; 8vo.)

BARYTES. [See Barium.]

BARYTO-CALCITE, a mineral first shown by Banks
to be a hitherto unknown species, and described by him in
the Annals of Philosophy for August, 1854, occurs in
considerable quantity, both crystallised and massive, at Alban
in Cumberland. The form of the crystal is an oblique
homeomorphous prism, as will be seen in the accompanying
figures, the following being the measurements as given by Mr.
Brookes:—

<table>
<thead>
<tr>
<th>P on M or M'</th>
<th>100° 24'</th>
</tr>
</thead>
<tbody>
<tr>
<td>P on a</td>
<td>147° 34'</td>
</tr>
<tr>
<td>P on A</td>
<td>106° 58'</td>
</tr>
<tr>
<td>M on M'</td>
<td>106° 54'</td>
</tr>
<tr>
<td>M on A</td>
<td>145° 27'</td>
</tr>
</tbody>
</table>

This form was variously modified by a number of planes,
so dull as not to admit of measurements sufficiently accurate
to allow their character to be obtained, and they have
consequently, been omitted in the figure. Two bright cleavage
planes are readily obtained in the directions of the lines
P and M.

It is composed, according to Mr. Child's analysis, of
Carbonate of baryta 65 9
Carbonate of lime 23 6

With a very small quantity of sulphate of baryta, and
may therefore be justly considered as an analogous
combination, expressed by the formula
Ba C₂ + Ca C₄.

Its lustre is vitreous, inclining to resinous; the hardness
is 4.1, and the specific gravity is 3.94.

BARYTON, or BARITONE, from baryx, heavy, gross, and rivo, tone, the male voice, the compass of which is be-
tween that of the tenor and the bass. Dr. Beccerus, as he has
recently published Recherches sur le Mésocome de P' lor, applies a new term, barytone, to this voice, which is much to be preferred to that above, for its etymological meaning, would seem to imply a voice higher than a low bass.

BARYTON is also the name of an instrument similar to the vaal da Gamba (see Viol, p. 273), invented in 1700, but now entirely disused. Hyde, in his book on musical Instru-
ments, mentions 163 pieces for the baryton, or baritone, which was the fa-

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engaged in fishing. They reside in a village of the same name as the island.

It is said that the coast is separated from the main land by a channel of about three quarters of a mile over. It has been said that there was once a considerable town here, but this is merely a conjecture, nor are there any vestiges of such a place to give it probability.

The Basaltes have increased much during the latter part of the last century, as in the Dictionnaire des Gentilshommes, &c., of Expilly (Paris, 1782), it is given only at 160 persons. (Dictionnaire Universel de la France; Expilly, Dictionnaire des Gentilshommes, &c.)

BAS, sometimes called BAS-EN-BASSET, a town in the department of Haute Loire in France. Its distance from Paris cannot be accurately given, as it is not on any of the main roads. It is in 45° 18' N. lat., 4° 8' E. long. from the 0.

This town is on the left bank of the Loire, but far above the place at which the river becomes navigable. It is subject to be overflowed by the waters from the mountains, which lie to the west of it, and bound the basin of the Loire. The territory around is fertile in corn and wine. The manufactures are pottery, blond lace, common or bone lace, and ribbons. The last two are made by women. Population of the commune in 1833, 5,354.

BAS-OH, a commune in the province of Liege, in the kingdom of Belgium, is bounded on the north by the commune of Moha, on the east by that of Wanze, on the south by the province of Namur, and on the west by the commune of Cousin Hippo. The Meuse river forms likewise a boundary of Bas-Oh, flowing through its whole extent from east to west. That part of the commune which is situated on the Meuse is composed of a very productive alluvial soil; in the other parts, clay, sand, and gravel are found. The agricultural productions consist of corn, wine, fruits, and artificial grasses. The population amounted, in 1831, to 629 souls, a large part of whom are engaged in working iron and coal mines.

(Meusse's Dictionnaire Geographique de la Province de Liège, 1831.)

BASALT, a hard dark-coloured rock of igneous origin. The chemical composition is variable, as appears from different analyses, two of which, by Beudant (1) and Phillips (2), are here given, and illustrate this fact:—

<table>
<thead>
<tr>
<th>(1) SiO₂</th>
<th>Al₂O₃</th>
<th>Fe₂O₃</th>
<th>MgO</th>
<th>FeO</th>
<th>MnO</th>
<th>CaO</th>
<th>MgO</th>
<th>MnO</th>
<th>Fe₂O₃</th>
<th>FeO</th>
<th>MgO</th>
<th>CaO</th>
</tr>
</thead>
<tbody>
<tr>
<td>59.5</td>
<td>11.5</td>
<td>1.3</td>
<td>0.0</td>
<td>5.9</td>
<td>0.4</td>
<td>8.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49.0</td>
<td>16.75</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

True basalt has been regarded as composed of augite, felspar, and oxide of iron; but this definition is far too limited for either theoretical or practical purposes, unless the constituent minerals be considered of variable chemical composition, as appears to be the case. Since augite and hornblende may, from the results of Rose, be regarded as the same mineral, it follows that a very fine-grained greenstone, containing a considerable percentage of oxide of iron, can, even under this definition, be considered a true basalt. There can, indeed, be little doubt that the same igneous rock has been termed greenstone, when the grains of felspar and hornblende were sufficiently distinct, which, when exceedingly fine-grained, has been named basalt. Basalt can only be considered as one variety of that mass of melted rock, which has been ejected at various periods from beneath the crust of the globe, and to which various names have been assigned, according to the characters which circumstances have imparted to different portions of it.

Like others of the same class, basalt occasionally passes into many rocks which have been in a state of fusion beneath the surface of the earth and subsequently ejected. Dr. Hibbert noticed a passage of basalt into granite in the Shetland Islands. (Brewster's Edinburgh Journal of Science, vol. i. p. 107.) When, however, we view the mass of igneous rocks generally, it appears that basalts are the products of comparatively late geological epochs. We may therefore infer that during the earlier states of our planet, conditions were not favourable to their production, or at least to their propulsion to the surface; though probably some

varieties of hornblende rock, particularly when impregnated with much oxide of iron, do not differ materially from basalt in their chemical contents. The mode of occurrence of these rocks and of basalts is, however, very different.

Basalt is a rock of very extensive occurrence on the surface of the earth, and is very frequently detected in the vicinity of volcanoes, both extinct and active. The greatest mass of basalt yet observed is that noticed by Colonel Sykes in the Deccan, constituting the surface of many thousand square miles of that part of India. This immense mass of basalt is either massive, prismatic, or globular, occurs in horizontal beds, and is traversed by dykes [see Dykes] of basalt, which sometimes cross each other. (Proceedings of the Geol. Soc. of London, 1833.) There is no trace of any crater in this basaltic region; and indeed this is the case with numerous other districts of basalt, whence it has been inferred that such tabular masses have not been ejected from a conical vent similar to those of volcanoes, but that the basalt of which they are formed rose through cracks and fissures while in a highly liquid state, spreading out in sheets of melted matter over the adjacent rocks.

As basalt is frequently columnar, it is a rock which has excited much popular attention, and travellers have been sometimes induced to describe rocks as basaltic merely because they were columnar, which, however, is a character that this rock possesses in common with many others of igneous origin. When basalt occurs in horizontal tabular masses, and is columnar, the columns are generally perpendicular, as a and b in the annexed figure. When basalt forms the substance of a perpendicular dyke, cutting through other rocks, and is columnar, the columns are usually horizontal, in the manner represented beneath, a being the basal dyke, and b the rocks through which the dyke passes. Basaltic columns are sometimes also curved, and of this mode of occurrence there is a beautiful example in the island of Staffa.

When basaltic columns are jointed, and exposed to the destructive action of breakers on a coast, they often, as in the annexed sketch, present the appearance of some great ruined work of art. Such deceptive appearances are, however, not confined to coasts, for in some countries, and especially in India, masses of basalt rise suddenly from the plains, and the broken columns, shooting upwards, may readily at a distance be mistaken for buildings. When viewed from above, the heads of a number of basaltic columns, if unbroken, appear like a pavement composed of numerous polygonal pieces of stone fitted into each other, as is the following figure:—

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According to Mr. Gregory Watt, the columnar structure of basalt is due to the pressure of numerous spheres or spheroids on each other during the cooling of the rock, such spheres or spheroids being produced in planes of refrigeration or absorption. This author took seven hundred weight of an amorphous basalt named Rowley Bag, kept it in fusion for more than six hours, and cooled it so gradually that eight days elapsed before it was taken from the furnace. The shape of the mass was uneven, and while the thinner portion was, in consequence of more rapid cooling, vitreous, the thicker was stony, the one state passing into the other. It was observed that numerous spheroids had been formed, sometimes two inches in diameter. They were radiated with distinct fibres, the latter also forming concentric coats when circumstances were favourable to such an arrangement. When the temperature had been sufficiently continued, the centres of the spheroids became compact before they attained the diameter of half an inch. When two spheroids came in contact no penetration ensued, but the two bodies became mutually compressed and separated by a plane, well defined and invested with a rusty colour, and when several met they formed prisms.

The following are Mr. Gregory Watt's inferences from these facts:—"In a stratum composed of basalt, the indefinite height, in height, of innumerable spheroids, with nearly equidistant centres, if their peripheries should come in contact in the same plane, it seems obvious that their mutual union would form them into hexagons; and if these were restrained below, and there was no opposing power above them, it seems equally clear that they would extend their dimensions upwards, and thus form hexagonal prisms, whose length might be indefinitely greater than their diameters. The farther the extremities of the radii were removed from the centre, the greater would be their approach to parallelism; and the structure would be entirely propagated by nearly parallel fibres, still keeping within the limits of the hexagonal prism with which their inception formed commenced; and the prisms might thus shoot to an indefinite length under the undisturbed central mass of the fluid, till their structure was deranged by the superior influence of a countering cause." (Observations on Basalt, &c., Phil. Trans., 1804.)

According to the theory, which is certainly the best hitherto framed to account for the columnar structure of basalt, the irregularity of the prisms would obviously depend upon the unequal distances of the centres of the spheroids, and the consequent unequal pressure; and it is further inferred that the joints sometimes observable in basaltic columns correspond with the concentric coats noticed above. Two of the most beautiful examples of columnar basalt hitherto discovered are found in the British islands, one on the north-east coast of Ireland (see giant's causeway), and the other among the Hebrides (see Staffa). The largest columns yet observed are found at Fairhead at the former place, where, according to the accurate measurement of some by the Ordnance trigonometrical survey of Ireland, they are 317 feet in length, the sides of these enormous prisms occasionally measuring 5 feet.

Some non-columnar basalts present no trace of any particular arrangement of parts, while others show a globular structure, so that when the rock becomes much decomposed it has the appearance of numerous bombshells and cannonballs cemented together by a ferruginous substance. This globular structure is sometimes also apparent when the decomposition of the rock has not been considerable, being best seen in the concentric arrangement of coats of basaltic round centres at variable distances from each other, in the manner represented beneath.

Other basalts are amygdaloidal, containing a variety of substances, such as agates, onyxes, and other minerals, which have been infiltrated into cavities formed by bubbles of gas or vapour while the rock was in a state of fusion. As these bubbles have sometimes been lengthened by the force of the wind before they finally burst, filling such elongated cavities the appearance of almond-sticks in the mass of the rock, whence the name amygdaloid. When, as sometimes occurs, a great number of basalt is composed of superimposed columns, some of amorphous, and others amygdaloidal, these prismatic figures are sufficient to authorize a conclusion that the whole mass has not been produced at one eruption of basalt, but that there were several flows of melted matter to which different conditions gave different characters, as structural details further prove the absence of considerable pressure upon the basalt so characterized, before it became solid.

BASCINET, BASINET, or BASNET, was a light basinet, so called from its resemblance to a basin, generally without a visor, though, from different quotations of the term bascin de visiere, cited by Ducange (Glossar. s. Franc. M. 1681, p. 423) from Chroniques & Romances of the Thirteenth and Fourteenth Centuries, it appears that the visor occasionally accompanied it. So is the History of Chauffery we have 'Item duca basinetum cum venten, sol. vi. den.' (Meyer's Crit. Inquiry into Antient Armor. vol. iii. Gloss.)

Finchett, says Gros (it should be Faubert, Oeuvres des sculpteurs, architec., et hortic., 5to. Paris, 1660, p. 42), b, supposes them to have been a lighter sort of helmet that did not cover the face, and says he finds that the kings and often exchanged their helmets for basins when most fatigued, and wishing to appear lighter; but when they would not with propriety go unarmed.

Basinet were worn in the reigns of Edward II and III, and Richard II. by most of the English infants as may be repeatedly seen in the rolls of parliament and other public records. (See Gros, Treas. of Ancient Armor. 4to. London, 1678, pp. 10, 11.)

Sir Samuel Meyrick, in his Engraved Illustration of Anient Arms and Armor, vol. ii. pl. xiv, fig. 3, gives a basinet with its ventail, barret, or visiere of the time of Edward II; and pl. xxiv, fig. 1, a basinet of the time of Henry V.

BASE, in Architecture. [See Column]

BASE, in music, from base (basse), the base or foundation, the lowest part, whether instrumental or vocal. This word is occasionally written base, but the etymology, and more especially the pronunciation, are decidedly in favour of the orthography here adopted, which is sanctioned by Dr. Johnson and other high authorities. The base, says Dr. Paley, is the most important part of the piece; without it, the whole is in a state of confusion. But if by the words most important we mean that which can least be dispensed with, then both are correct; for, in error, for the highest part or melody is, unquestionably, the most essential. It is the theme, the subject out of which the other parts, however numerous, are uncommunicable. It being understood that we are not speaking of instrumental accompaniments, such as violins, flutes, &c., which, in the score, are frequently above the highest solo part or melody. In composition in two or more voices, it is more difficult to write a melody for the bass than a mere drone, but to the sound musician the subject and intermediate parts require more thought than the bass.

BASE, or BASS, a name sometimes given to the cymbal.

BASE CLEF. [See Clef]

BASE, CONTINUED. [See Continuation Base]

BASE, DOUBLE. [See Double Base]

BASE, FIGURED. [See Figured Base]

BASE, FUNDAMENTAL. [See Fundamental Base]

BASE, GROUND. [See Ground Base]

BASE, THOROUGH. [See Thorough Base]

BASE VOICE, the lowest part of a voice, on which he or she below the bass staff, or above it; but some few voices exceed the limits here assigned, and must be considered as exceptions to the rule. Musically in the area ' If'm tromba', in his opera of Donizetti, caom
BAS.

From the singer a compass of two octaves—from y above the staff to y below; and Purcell, in his anthem, 'They go to war', 'The County', as well as the meaning of the word 'down', and in a wretched endeavour to express decent, writes for the base a run of notes from b above to b below the staff.

BASECLES, a town and commune of the province of Haspengouw, which is bounded on the north by the communes of Thumaide, Wadelincourt, and Elingnies St. Anne; on the east by Querquurnomps; on the south by Blaton; and on the west by Peruwelz. The inhabitants of this commune, who in 1831 amounted to 2,785 persons, reside almost entirely in the town. The soil varies in different parts of the commune. In some places a friable clay, in others vegetable mould mixed with sand, a light sand containing flints, or a heath, are met with. The principal vegetable productions are corn and potatoes, barley, beets, flax, and rye. The cultivation of the soil is carefully conducted, and the more productive lands are constantly in crop. Considerable quarries of compact, blue limestone are worked: the stones are used for paving, and for other common purposes, the chippings being converted into lime, which is much used for dressing the land, as well as for building purposes. Another description of limestone, to which the name of Basècles marble has been given, is of a bluish-black colour, and capable of receiving a high polish, and is useful for the construction of buildings. A considerable trade is carried on from the commune in this stone and in lime.

(Meisser's Dictionnaire Geographique de la Province de Flandre, 1833.)

BASEL, CANTON OF, extends about twenty-three miles in length from N.W. to S.E., and about fourteen in its greatest breadth. Its form is very irregular, being much narrowed about the middle of its length by a projection of the territory of Solothurn on one side, and a bend in the Rhine on the other, which reduces its breadth at that point to about three miles. It contains, according to Franzen's Statistisches, 1827, about 270 English square miles (Dr. Neige- feur, in 1831, states the area at only 100 square miles), and about 33,900 inhabitants. It is bounded on the north and west by the canton of Solothurn; on the south by the canton of Aargau, and on the east by the canton of Basel. The greater part of the canton lies upon or between the lateral offsets of the Jura Mountains, the principal ridge of which, called Hauenstein and Schaffhauss, divides the southern part of the canton from Solothurn. The highest summit of the Hauenstein, on the road from Solothurn to Basel, is nearly 3,000 feet above the level of the sea, and the highest point of the Schaffhauss, is about 4,000. The northern part of the canton slopes towards the banks of the Rhine, and forms a plain nearly 20 miles in length, and 3 miles broad. The land is very fertile in corn and wine: the rest abounds in rich pastures, which feed 12,000 head of large cattle, and as many sheep. The Rhine supplies good fish in abundance. The length of the Rhine basin from Basel to the river Hauenstein is about 145 miles. The basin contains 2,215 houses, and 16,680 inhabitants, mostly of the reformed religion: in former times they amounted to more than twice that number. Some parts of the town have still an antique appearance, and streets of Great Basel are mostly confined and crooked; in the nine and Little Basel they are broad and regular. There are fifty-three public fountains in the town, many adorned with works of antique sculpture. The fountain in the fishmarket is considered one of the finest pieces of Gothic architecture in Switzerland. Of the churches the Münster (cathedral), which stands in an elevated part of the town, is the most remarkable. It was built in 1619, and contains, among other monuments, the tomb of Eras- tum. Its two octagonal towers, which rise to the height of a great hall in which the council of Basel held its sittings, and a fine cloister. The town house contains two seats in the Diet of 1834. The population of Basel Town and its territory is about 29,000 inhabitants, and that of the Grand Duchy of Basel, which contains the cantons of Little Basel and Unterwalden, 34,800, and of the people of the Grand Duchy of Basel, 29,000, and of the Grand Duchy of Basel, 34,800. The public revenue of the whole canton, previous to the separation, was 436,000 Swiss francs, or about 27,000l. sterling. The religion of the inhabitants is the Protestant, according to the Helvetic confession of faith. The language is a dialect of the Swiss-German, but French is generally understood in the town, and in many parts of the country. The territory of Basel Town is about 500 acres on the east, and on the Grand Duchy of Basel, on the north and south. Basel City borders on the Cantons of Solothurn and Aargau; the Rhine divides it on the north from the Grand Duchy of Basel. The education of the rural districts has been till now very much neglected, but the country people are accordingly among the rudest in Switzerland. (Geographisches Lexicon der Schweiz : Riebel, Manuel du Voyageur : Dandolo, Zwissere Ortsatlanten.)

BASEL, BASEL, or BALE, the capital of the Swiss canton of the same name, on the river Rhine, the principal town of the ancient Basilia, built by Valentinian I. After the destruction of Augusta Rauracorum in A.D. 450, of which some ruins are still to be seen at Augst two leagues from Basel, this town gradually assumed the name and importance. It early became an episcopal see. In 917 the town was besieged by the Magyars; but although it suffered at later dates repeatedly from the plague, and in 1336 from a terrible earthquake, which was followed by a conflagration that lasted eight days, and almost destroyed the whole town, yet it always recovered from these disasters, and maintained its rank as a free city of the German empire. Its brave citizens successfully resisted the surrounding nobility. In the year 1460 the University of Basel was established, and by the citizens purchased of the Emperor Frederick III. Pope Pius II. The internal disputes which had distracted it having also subsided, Basel was then at the height of its power, and in the possession of a small territory. In 1501 it entered the Swiss confederacy, being then the most flourishing town of Switzerland, and an important trading place. In consequence of the town adopting (1527) reformed principles, the bishop left it, from which time it has been entirely independent. But down to the latest period its population has fluctuated. In 1629 it contained 21,253, in 1764 27,701, in 1831 36,521, and in 1841 37,203. The city of Basel is a county, with civil jurisdiction. During the sixteenth century numerous editions of Greek and Latin authors, as well as other works, were printed in this town. In the year 1795 the peace between France and Prussia, and France and Spain, was concluded within its walls.

Basel, still the largest, though not the most populous and the richest town in Switzerland, is situated in 47° 33' 37" N. lat., and about 7° 33' E. long., at an elevation of about 800 feet above the sea level, at the point where the Rhine changes its western into a northern course. The Rhine divides it into two parts, Great and Little (Gross and Klein) Basel, which are connected by a wooden bridge. Great Basel, on the left bank of the Rhine, is the seat of the government, and contains 21,253 houses, and 16,680 inhabitants, mostly of the reformed religion: in former times they amounted to more than twice that number. Some parts of the town have still an antique appearance, and streets of Great Basel are mostly confined and crooked; in the nine and Little Basel they are broad and regular. There are fifty-three public fountains in the town, many adorned with works of antique sculpture. The fountain in the fishmarket is considered one of the finest pieces of Gothic architecture in Switzerland. Of the churches the Münster (cathedral), which stands in an elevated part of the town, is the most remarkable. It was built in 1619, and contains, among other monuments, the tomb of Eras- tum. Its two octagonal towers, which rise to the height of a great hall in which the council of Basel held its sittings, and a fine cloister. The town house contains two
large and finely-ornamented halls. In the armoury is the
cost of mail of Charles the Rash, a trophy of the Bur-
gundian war. The town has several fine public buildings,
among which are the post-office, the casino, and the theatre,
built in an elegant style. Many private houses equal in
beauty and internal cleanness those of the best towns in
Europe, and remind us of Holland. The citizens of Basel
are remarkable, above all others in Switzerland, for grave
demeanor and business-like habits.

The Pfalz (Palatium), near the Münster, which is a ter-
race raised on a wall seventy-five feet above the Rhine, and
planted with horse-chestnut trees, commands a beautiful
prospect of the river, the town, and the country. Besides
the university Basel has many establishments of education.
The evangelical mission-seminar (missionary college),
established in 1816, has already its stations in southern
Russia and in India. Of the several public and private
libraries, the university library is the most remarkable, and
contains a collection of paintings, drawings, and wood-
cuts by Holbein. There is a botanical garden, and several
charitable institutions for people of all ages.

The transit trade employs many hands. Business in bills
of exchange, and the wine and book trade are also considerable.
About 5000 looms are employed in manufacturing silk rib-
bons. The paper of Basel was formerly more celebrated, as
there was less competition. There are likewise large tan-
neries, tobacco manufactories, &c.
Basel is the birthplace of Euler, of James, John, and Daniel
Bernoulli, and of Buxtorf. It contends with the Bavarian
towns of Grünstadt and Augsburg for being the birthplace
of Holbein. (Communications from Zürich, Switzerland.)

BASEL, COUNCIL OF. [See COUNCIL.]

BASEMENT, in architecture, is the lowest story of a
building, forming the base of a private house or public edi-

The feature of a building should possess externally
the character of strength; and, accordingly, in the designs
of Palladio, and the other great masters of the Italian
school, we find that the basement has a massive appearance,
capable of sustaining the order or orders which are often
placed above it. In edifices used as dwellings the basement
is high; but in churches and other public buildings it is
usually kept low. Some basements are as high as propor-
tion as the floor or story placed above it, while others are not
more than a third or a half of the height. The proportions
of basements vary according to the convenience required
in the lower story, or to the importance attached to the floor
or floors which they may support. Sir William Chambers,
in his Civil Architecture, gives rules for the proportions
of the parts forming the characteristic features of the base-
ment, but at the same time he admits that 'the proportions
of these basements are not fixed, but depend chiefly on the
nature of the apartments forming the ground-floor.' In
Italy,' he says, 'where the summer habitations are very
frequently on that floor, the basements are sometimes very
high. At the palace of the Porti, in Vienna, the height
is equal to that of the order placed thereon; and at the
Thiene, in the same city, its height exceeds two thirds of
that of the order, although it is almost of sufficient eleva-
tion to contain two stories; but at the Villa Capra and at
the Loco Arzera, both near Vicenza, the basement is only
half the height of the order, because in both these the
ground-floor consists of nothing but offices.' (Travels on
Civil Architecture, by Sir William Chambers.) These few
works enumerate present different proportions, and are all
of the designs of Palladio.

The edifice at Whitehall, to which we have frequently
referred, and the Cathedral of St. Paul's, London, have
both a low basement. In basements the masonry is usu-


The published designs of Palladio, Vignola, and Scamozzi, may also be consulted with advantage by the
student in architecture.

In the edifice of antiquity the basement is usually low,
and intended to support an order of columns. The masonry

[Whitehall, London, from a drawing accurately measured and delineated, by Mr. William Bone, architect.]

rectangular and cut upon a plinth, on which there is some-
times a moulded base; the upper part of the basement is
continued with a broad band, under which, at times,
mouldings are employed. A cornice is also used occa-
sionally instead of the band.

In the beautiful palaces of Rome and Florence the bas-
ements are finely proportioned. For geometrical repre-
sentations of these buildings we refer to the architectural work
of MM. Perron and Lemaire, entitled Traité de la Géométrie
de Florence. The published designs of Palladio, Vignola,
and Scamozzi, may also be consulted with advantage by the
student in architecture.

In the edifice of antiquity the basement is usually low,
and intended to support an order of columns. The masonry
BAS. See PASA.

BASHAN (בַּשָּׁן and בַּשָּׁן) is called the

Septuagint Βασίνα, by Rusebus Basimic, by Josephus and Pudensy Beraevnia (Batanana). The last form arose from the Aramaic pronunciation of the Hebrew word for Bashan. Beshan or Bashan belonged to Gad in the widest sense (Jos. xiii. 30, 31), but in a stricter sense it was distinguished from and situated to the north of Gilead (Jos. xvi. 1, 5, xx. 8; 2 Kings x. 33; Deut. iv. 7). Bashan is bounded on the west by the territory of Gilead (Deut. iv. 7). Bashan is bounded on the north by the Syrian districts of Geshur and Machaath: in the south it did not reach to the river Jabbok (Deut. iii. 13-16.) Its western boundary reached the Jordan, and the eastern limits are undefined. Bashan and Bashan is now called El Botein or Belot Erbad, a district south of Dechol and west of Hauran. Seezetten and Burchhardt have described in their travels the geology of El Botein.

Bashan was a kingdom under Amoritishe sovereigns who resided in Ashtaroth and in Edrei (Deut. i. 4; Jos. ix. 10, xii. 4.) Og was the last king of the Amoritishe dynasty. In the battle of Edrei, about the year 1452 BC, the Israelites smote Og, his sons, and all his people: "until there was left not one of them left to be possessed of the land. (Num. xxxi. 33-35.) Moses gave Bashan unto the half tribe of Manasseh (Deut. iii. 13)." At the commencement of the Christian era Bashan belonged to the tetrarch of Philip and the tetrarch of Trachonitis (Jos. war ii. 4, 6; Bell, Jud. ii. 6, 3), and afterwards to the tetrarch of Agrippa II. (Antiquit. xxi. 7, 1.) The fertile plains of Bashan produced men of such uncommon stature, that it was called the land of giants (Deut. xi. 33). The oaks, sheep, and oxen were proverbially fine. (Josh. ii. 13; Ezek. xxvii. 6; Zach. xi. 2; compare Jer. i. 19; Mich. vii. 14; Deut. xxxii. 14; Ps. xxiii. 13—in the English Bible verse 12, but in Hebrew verse 13.) These plains are intersected by basalt ridges, which are prolongations of the Anti-Lebanon, the mountains of Bashan, from Bashan to the Anti-Lebanon, from Bashan in a north-east to south-west direction. The hill of God is as the hill of Bashan: a high hill as the hill of Bashan. Why leap ye, ye high hills? This is the hill which God desireth to dwell in; yes, the Lord will dwell in it for ever. It appears from various ruins that the towns of Bashan were chiefly built on heights. Porphyrius was a native of Batana.

BAKER ISLANDS. A cluster of five islands and four rocky islets. Batanae, lying between Luzon, the great Philippine island and the Philippines, is about 12° E. long. The five islands, which are inhabited, were named by Dampier, who visited them, Bashhee, Orange, Great, Monmouth, and Grafton Islands. The name of Bashhee was given in consequence of the addition of the native word Bash Ke, which means "divine." The islands are of volcanic origin and are covered with rice and the juice of the sugar-cane, and to which liquor the name of Bashhee is applied. The inhabitants are a strong athletic race, very inoffensive in their manners. Dampier gives a favourable account of their civility.

The Spaniards were induced to take possession of these islands in 1783, from observing that the inhabitants were accustomed to wear thick golden wire as an ornament. The metal of which this wire was made was washed down from the mountains by the torrents in the rainy season. The medium of exchange in these islands formerly was iron, but the natives have since learned the use of the precious metals from their European neighbours.

The governor resides with a small establishment of soldiers who were once a terror of the place, on the west side of which is a good anchoring-ground. The islands are plentifully supplied with water, and produce sugar-cane, plantains, yams, and other vegetables. They likewise contain numerous flocks of goats, and a great abundance of hogs.

(Dampier's Voyages: Meares' Voyage to Norfolk Sound; Hamilton's East India Gazetteer.)

BASHIKORS, or more correctly BASSIKIORS. The name Bashikors is a corruption of Bashkors, the Russian word, which is found in innumerable versions between the provinces of Tobolok, Penn, Vjaska, Kasaan, Sambirak, Saratoff, and Astrachan, and adjoins the territory of the Cossacks of the Urals, which also forms part of the province of Orenburg, and is bordered by the Caspian, is separated from the steppes of the Kirga-Cossache by the Ural, Ob, and Oby, and is principally inhabited by what are termed military tribes. The Orenburg line extends 2000 versts (about 1320 miles) from Sverdlovogolok to Gurnoe, meeting the boundary of the Cossack on the north and the banks of the Caspian in the south. This line, by which the Russian provinces are separated from the Kirga-Cossack territory, describes at the same time a zigzag, of which Sverdlovogolok, Orsk, and Gurnoe form the three points. On this line there is no footpath, and the maintenance of this line is the principal duty assigned to the inhabitants of the adjoining provinces, the Cossacks of Orenburg and the Urals, the Bashkirs, Meshakhassus, and Teptars, in conjunction with twelve battalions of infantry. The line is considered as an unimportant border. In maps this line appears to be an uninterrupted series of forts; in fact, most of the settlements along it are termed reposes, or forts, though they are nothing but ordinary open villages; nor are there more than two or three in any one province. Besides Orenburg, which possesses either walls or ditches. The colonies of Cossacks are placed between these reposes, and the communication between them is kept up by means of piquets and patrol officers stationed at intervals of two or three miles from each other, and at small posts covered with straw. Indepedently of a few tracts held by the crown, or by Cossack nobles, manufacturers, or private persons, the whole of the province of Orenburg, and some portions of the adjacent provinces, belong to the Bashkirs; setting aside the townships, fort seats, and towns in which it is distributed into cantons, clanships, jurats, and villages. The cantons are twelve in number; of these the three first and smallest lie within the province of Perm, and an incon-}

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The text appears to be a continuation of a larger work, discussing geographical and historical aspects of Bashan, Baker Islands, and Bashikors. It mentions the presence of military tribes along a strategic line between Russian provinces and the Bashkirs. The text is rich with historical and geographical terms, indicating a focus on the regions mentioned.
Bashkir male population appears, according to Raitschkan, to have been 166,176 in 1744, but no very accurate enumeration then existed. At present, the twelve Bashkir cantons contain 183,390 males, viz.:—

<table>
<thead>
<tr>
<th>Districts</th>
<th>Bashkirs</th>
<th>Bashkirs and Tartars</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chima</td>
<td>3,520</td>
<td>6,067</td>
<td>9,587</td>
</tr>
<tr>
<td>Dargazh</td>
<td>1,170</td>
<td>100</td>
<td>1,270</td>
</tr>
<tr>
<td>Jumag</td>
<td>2,484</td>
<td>244</td>
<td>2,728</td>
</tr>
<tr>
<td>Kuchum</td>
<td>2,566</td>
<td>256</td>
<td>2,822</td>
</tr>
<tr>
<td>Total</td>
<td>11,024</td>
<td>1,009</td>
<td>12,033</td>
</tr>
</tbody>
</table>

This enumeration does not include the Mashhtashures, which inhabit five cantons of their own, the Tchepars, who form two regiments, or the other inhabitants of the province of Orenburg; neither does it comprise the Bashkirs, who have not yet been incorporated with the Cossacks of the Ural. The Bashkirs do not pay any tax, but they are bound to provide post-horses, supplies for the frontier-cordon, and hold themselves ready for any foreign service. Their liability to serve begins at the age of seventeen, and closes with that of forty-five. Those in the remoter cantons have a journey of upwards of three hundred miles to perform before they reach the frontier line, where they either breasts, or live under mud huts, from the 16th to the 18th century, and by which experience the only horrors of the Kirgises are to be apprehended. Their pay on this service is but one rouble (about 11d.) monthly.

Such a custom of injury has been done to the Bashkirs; a summer's residence in his society would go far to correct the bad opinion entertained of him. In spite of every effort made by the government itself, it is cruelly oppressed by the subordinate authorities; and his worst vice is that of horse-stealing. He does not much regard the law, especially when he is drunk, but the 'gumus,' or oath, which he takes over the grave of his elder, is held inviolably sacred. The Bashkirs are good horsemen, but indifferent soldiers. They cherish an inveterate hatred against the Cossacks, whom they excel both in courage and military renown; and through the experience of bowmen (for they rarely miss a mark at forty paces distance), their weapons are inferior to those of the tribes in the Caucasian territories. In battle, the Bashkir usually brings his quiver, which hangs behind, in front of his horse's neck. He has two arrows between his teeth, and lays two others upon his bow, which he discharges one after the other with great rapidity. When attacking, he presses down close upon his horse, rushes with hideous yells upon his foe, his arms and neck bare, and, after he has shot his four arrows, thrusts impetuously at him with lance in rest. The Bashkir horse is in some esteem: it is small, strong, and durable; but not to be compared, in general, with the Cossack and Kalmuck breeds. The majority of this people subsist by rearing cattle, and a few by agriculture. They pass the winter in villages, living in clean wooden cabins; but in summer not a soul is to be found in them; all are abroad with their herds in the open field, dwelling under tents of felt. Prepared horses' milk and 'koult,' a kind of oat bread, are their principal food; and they never fail to take a stock of the latter with them, which they steep in water, when they go upon service. It serves them for a length of time instead of bread or other food. Some of them are great sportmen, for they have game in such abundance; and the use of the falcon is common among them.

Their customs and habits are of Tartar origin, with the exception of the female dress, which is evidently Finnic: their high-priest resides at Ufa; they have no longer any language of their own, but have preserved the habits and amenities of the Russian nobles to this day. Their cantons are all under the jurisdiction of the bishop of Orenburg, to whom they pay the tithes of their produce, and who has the patronage of the town of Marzabal, where they have desisted; but Bashkirs are usually consecrated and adminstered in the cathedral of St. Basili in St. Petersburg; but though still retained the see.

In 351 he attended the Second Council of Nicaea, where he disputed successfully against Photinus. He was one of the greatest enemies to the Ariana, but was still considered as the head of the Semi-Arians, who maintained that the Son was co-equal with the Father in the divine nature, and by his divinity by a peculiar privilege. This opinion Basil and only maintained, but procured to be established by a canonical hold of Ancyra in the year 358; and subsequently defended a bid in the Council ofConstantinople and Ariminum, by whom, after being charged with errors, he was deposed in 360. St. Jerome informs us that Basil wrote a book against Marcellus, a presbyter, named Ancyra, and some smaller papers against Anonymus. He had the reputation of being men of learning and eloquence.

But, says, although Basil is placed by some at the head of the Semi-Arians, yet it is not quite certain that he has been a heretic. St. Basil speaks of him as being both a presbyter and an archon of the Church at Caesarea in Cappadocia, and a bishop in the church of St. Basil, and a chief doctor of the Church of St. Basil. Hence it is that Basil of Ancyra was the chief orthodox bishop. (See Morin, Dictionary Histoire, etc. Paris, 1576, p. 123. Basilius was a bishop of the name of St. BASIL, BASILIUS, a bishop of Antioch, called ST. BASIL, and on account of his learning and person the Great, was born at Caesarea in Cappadocia in the year 336: Lardner says in the year 326, or 323. His father was named Basilus, and his mother Eumasia. It is not known when he was ordained a priest, but he went afterwards and studied at Antioch and Constantinople under the famous Lusius, according to some modern writers. Caesarea (whether the Caesarea of Cappadocia that of Palestine seems uncertain) is also mentioned as one of the places where he studied. He afterwards went to Athens, perhaps certain; but it does not appear so close that Lusius was his master: he seems rather to have been his fellow scholar, for he was ordained a bishop of Antioch in 458. He was chosen his successor. He returned to his native city about the year 355, and taught rhetoric. Soon after this he travelled into Syria, Egypt, and Libya, and visited the monasteries of those countries, where he resided in the lives of the monks so exemplary, that he reserved not his return home, to follow their example, and eventually he instituted an order of monastic life in the presence of Pontus. Eusebius, who had succeeded to the bishopric of Caesarea in Cappadocia, and who had been ordained a bishop of Antioch before, and was a great friend of Basil, who some time after, upon some difference of view, was bishop, retired to the solitude of his monastery, and was consecrated to him about three years after, and gave to us our reputation, that, in Drusianus a death in the year 378. Eusebius was himself transferred to a bishop's see, but the same year St. Gregory, who loved peace, retired from the see. Basil had himself some disputes with Eusebius, and with Athanasius, who had been appointed bishop of Alexandria. Against both he won.
BASIL MONKS OF ST. When St. Basil, bishop of Caesarea, retired into Pontus, about the year 352, for the convenience of himself and his followers he founded a monastery, to which he gave a written rule for its regulation, the first of the kind that had appeared, and which was soon adopted in numerous other monasteries. This rule shortly spread itself over the East, and, according to the generality of writers, was the first in use in the West. Those who adopted it styled themselves of the order of St. Basil; and St. Basil’s Rule was, in fact, the parent of that which was afterwards framed by St. Benedict. (See Schlosser’s remarks on Basil, Universalhistorische Lehrbuch. &c. 3 Th. 3. Abh.)

Dom Alphonso Cavel, the Spanish annalista of this Order (Antiguedad de la Relig. y Regl. de St. Basilio, e. viii. 2), says that Basil’s Rule was approved and confirmed by Pope Liberius, who, in a council at Milan, in which it was ratified, A.D. 363; afterwards by several other popes; and was, in a later age of the Church, revised by Pope Gregory XIII., who, about 1573, united the religious of this order in Italy, Spain, and Sicily into one congregation. The abridgment of the rules of the Canons, or concordat of Eugene IV., and approved by Gregory XIII., was also confirmed by Popes Clement VIII., Paul V., and Alexander VII.

Morte gives 1537 as the date when the order was introduced in the West. St. Saviour, at Messina, is now considered as its chief monastery in the West. The monks of St. Basil in Spain follow the Greek, those of Italy the Latin ritual. The Greek monks are chiefly of this order, which exists to a great extent in Russia; though, in truth, their Rules, at least those they observe in Russia, have been adopted by several different persons, as Ephraim of Edessa, Gregory, Chrysostom, &c. (See Hist. des Ordres Monastiques, 4to. Par. 1714, tom. i. pp. 173-238, where engravings will be found of the dresses worn by the monks of different monasteries and countries; Moreri, Dict-naire Historique, &c. tom. 1759, tom. ii. p. 154; King’s Rites and Ceremonies of the Greek Church in Russia, 4to. Lond. 1759, p. 363.)

The order of St. Basil was never, that we know of, introduced into the Roman Church, though the Greeks, and some of the Eastern countries, used the Rule of St. Basil. The Rise of the Monastic State, p. 5 (as quoted by Tanner, Pref. to Notit. Monast, p. vi.) says, ‘The monks of Bangor were not unlike the order of Basil, if not of it.’ The genuine history of the monastery of Bangor, however, in its earliest period, cannot now be traced upon authority which can be relied on.

BASILICA (βασιλικα). This term denotes a collection of the sacred edifices, in the Greek language, translated from the original Latin into the Greek language. This work was commenced and brought to its present state during the latter part of the ninth and the beginning of the tenth centuries, under the superintendence of the Greek patriarch. The work consists of laws of Justinian into one Greek book from several Latin collections in which they were known in the Western Empire, is said to have been originally formed, and was certainly in part executed, by Basil I., called the Macedonian, 874-886, a deacon, a u. b. (877), and from whom the work derives its name. Basil’s death occurred before the completion of the work; and all that was effected in his time was a kind of Preface, or Introduction, which was called Ναοθέμια (the sixty-six books), and consisted of forty heads, or titles. Leo VI., surrounded the Sage, who succeeded his father Basil, as Emperor of Constantinople, brought the collection considerably nearer to its present form; under his direction it was distributed into six general heads, each of which was divided into ten titles; from which circumstance it is entitled in some manuscripts Εν Βασιλικα (the six-book), and in others Εν Βασιλικα (the sixty-six books). The Basilea were, however, finally reduced into their present form by Constantine VII., com- posed of one hundred and thirty-six books, and which are called the Basilea Sive Expositio, or the Sage, in the early part of the tenth century. From that time the book was commonly used as a code of jurisprudence in the Eastern Empire.

The Basilea contains the code, digests, institutes, and novelas of the Corpus Juris; and in the later divisions are inserted some of the later edicts of Justinian himself, of the subsequent Emperors of Constantinople, and of Basil the Macedonian in particular; and also a few extracts from the fathers, and early councils of the Church.

The Greek translation of the Roman law was, in all probability, not made expressly for this work, as the four books containing the institutions of Justinian are known to have been in existence in the Greek language previous to the time of Basil the Macedonian in the West. Herculess first published, in Latin only, in 1557, four complete books of the Basilea (ib. 45-48), and two books (25-29) incomplete. A splendid edition of the Basilea, prepared from a collection of various manuscripts in the Vatican, and the Bibliothèque du Roi, was published at Paris by Fabrot, in 1617, seven vols. folio, to which is prefixed a Report to Pope Urban VIII. upon the history of the Basilea, by Joseph Maria Suarez; but this edition only contains thirty-three books. In 1585, a more complete edition was published, by a Latin translation, said to be rather a hasty performance. Reitz, in 1732, added four books (19-32), following those of Herculess; but both editions together only contain thirty-six books complete, and seven with considerable defects. In the edition of Curzio published in Rome in 1731, the Greek text of Book 35-59 inclusive; and the MS. is possibly still extant, or it must have been lost a long time ago. [See CUIZIUS.] A new edition is now (1835) in the course of publication, at Leipzig, by Professor Hambach of Jena, in which are comprehended the various readings obtained by the collection of several manuscripts not examined by Fabrot.

BASILICA, from the Greek, βασιλικά, literally signifies a royal residence; but we have no account of any royal residence being specially called by that name; nor have we any description of Greek edifices called Basilica, which may be supposed to have furnished the model of the Roman Basilica. The name, indeed, is Greek, and it is highly probable that it is not derived from the Latin basilica, the Roman model, though the fact does not appear to be capable of direct proof. The building at Athens, called the Βασιλεια Σωτήρ, or Royal Porticus, seems to have been pretty much copied from the Christian basilica; and the Roman basilica of S. Paul outside the walls, which was used by the Greek model, though the fact does not appear to be capable of direct proof. This edifice, which is mentioned by Demosthenes (Against Aristogiton, chap. 6), contained the court of the Arch Bishop [see ARCHION]; and the Areopagus occasionally held their sittings there. (See also Pausanias, i. 3.) The name of Basilica is frequently applied to the public edifices of the Greeks, as the basilicas of the Emperors and of the Church, buildings with spacious halls, often surrounded with wide porticoes, many of which were built at different times, in the various Parts of Rome. They were usually called after the person who caused them to be built, as the Basilica
At the time of the conflagration recorded in Livy (xxxvi. 37), B.C. 210, there were no Basilicas then built. We read in the Bellum Alexandrinum (cap. 52) that the Basilica was used in the Spanish provinces at the date (B.C. 47) to which that work refers.

The principal feature of the Basilica was a large roofed building, supported on columns. The roof, which was called the porticus, was high above the other pilasters the symmetry of which consisted of two galleries, called porticus, placed one above the other, and round the internal sides of the central building. The porticus was covered with a lean-to roof, the upper part of which commenced below the capitals of columns which supported the testudo. The light was admitted between the spaces formed by the under line of the architrave of the central part of the interior of a raised platform formed the tribunal for a magistrate. The term testudo, as its name implies, is strictly the roof of the central part; but the term is also extended to signify the whole of the central space, which corresponds to what we call the nave of a church: the porticus correspond to the aisles.

The Basilica was not only used as a hall for the administration of justice, but afforded also convenient shelter to the merchants who transacted business there. Vitruvius, who constructed a Basilica at the Julian colony at Panum, informs us that it ought to be built with the warmest side of the forum, that those whose affairs called them there might confer together without being incommoded by the weather. 'The breadth,' he says, 'is not to be made less than the third, nor more than half, the length, unless the nature of the place opposes high above the other pilasters the symmetry to be different; but if the Basilica has too much length, chalcidica are made at the ends (see Chalcidicum), as in the Basilica of Julia Aquilia.' (Newman's Translation.)

The size and proportion of these edifices varied according to circumstances. The following proportions are given by Vitruvius for the various parts of this structure. The columns of the Basilica (by which Vitruvius means the columns engaged in the wall) are to be made as high as the porticus is broad; the porticus is to be as wide as the third part of the space in the middle. The columns of the upper gallery must be one-fourth less than the lower. The pietum (continued pedastal) must be made one-fourth less in height than the upper columns, and be placed between the upper and lower columns, that those who walk above may not be seen by the merchants: from which circumstance it would appear that the upper gallery was intended for a purpose distinct from the use of the lower gallery. It is probable that the upper gallery some kinds of banderaw were carried on.

The dimensions of the Basilica built by Vitruvius at Panum were as follow:—The testudo 120 Roman feet long, and 80 broad; the porticus between the walls and columns of the testudo, 20 feet broad; the height of the columns of the testudo, including their capitals, 50 feet, and the diameter 5. Behind these were parasataem, or small piers, 20 feet high, 20 feet broad, and 1 foot thick, to sustain the beams intended to bear the floor of the gallery. Over these were other parasataem, 18 feet high, 2 feet broad, and 1 foot thick, which supported the lean-to roofs. The remaining space between the beams which were laid over the upper parasataem, and the architrave of the columns of the testudo, was open to the hearth. In the Basilica at Panum, the testudo was supported by eighteen columns, four at each end, six on one side and four on the other, the two centre columns being omitted on this side, that the view of the pronaoe of a temple to Augustus might be seen. The tribunal on this building was in the form of a curved recess, 66 feet wide, and 15 feet deep. To this information Vitruvius adds the proportions of the timbers of the roof.

It is probable that Rome possessed Basileae in all the different Fords of the city. Of these the Basilica of Trajan, which formed a part of the Forum Trajaniun [see Forum], is the only one of which there are considerable remains left; it is represented on the reverse of the medal worn by us we have given above. Another Basilica, of the Constantin order, was discovered on the Palatine Hill. A large edifice in the Forum, called the Temple of Peace, has also been named the Basilica of Constantine.

The Emperors Gordon, in their magnificent mausoleums built on the Via Praenestina, had three Basileae. 100 feet in length. Two famous Basilicas, Romul and Fulvia, were built at Prænesta (Palestrina), between which Sylla caused a magnificent sun-dial to be placed. The marble fragments of the plan of Rome, now preserved in the Capitol at Rome, which was made during the reign of Septimius Severus, show a part of the Basilica Praenestana, from which it appears that, unlike the other Basilicas, it had no external wall. In this last respect, it may be compared to a very antient Greek edifice at Tarsus, which has been generally considered a Basilica. The building was an enclosure of columns, without any internal or external walls, and divided in the centre by an order of columns, with another above it. A Basilica which was discovered some years since at Ostia, had a curvilinear recess or lunette adorned with statues, which were removed to the museum of the Vatican.

The most perfect Basilica of antiquity, and whith best corresponds with the building described by strana, exists in Pompeii, constructed on the south-west, and consequently the warm side of the Forum. This edifice is 225 feet by 80. The testudo rose to the height of about 60 feet; judging from the diameter of the portions of the columns still remaining. These columns are twenty-eights as number, four of which are placed at each end, and the rest at each side of the testudo; they are externally constructed of brick, and covered with stucco. At the farthest end of the tribunal, raised on a platform, to which the ascent on each
England. The columns being clustered in the angles gave an appearance of strength.

The light, most probably, was admitted in the manner mentioned by Vitruvius; but, in addition, there were windows at the back of the tribunal, which perhaps were at one time placed, as windows in common use at Pompeii. The stone door-jamb are remarkable for a large grove, in which we may conjecture that the wooden door frames were fixed. The doors appear to have folded, as the marks left on the sill, from the opening and shutting, still remain. The order of the small engaged columns is Corinthian, and the style very similar to that of the Temple of Vesta at Tivoli, and, like that edifice, this Basilica was covered with a fine marble stucco. The most singular decoration is observed in the rusticated plastering of the exterior, where the rustics are painted in every variety of colour. The order of the testudo is unknown, as there are no remains of the capitals. It is probable that the columns, from their height, were never covered with the asbes of Vesuvius, which circumstance enabled the inhabitants to remove them.

The early Christian churches of Rome may be considered as the best analogies of the Roman Basilicas. In some of them, are still found many of the characteristics of the ancient Basilicas. There are twelve churches in Rome called Basilicas, the oldest of which dates from about the time of Constantine, and is even said to have been built by that emperor. These edifices were St. Peter, St. Paul (without the walls), S. Giovanni Laterano, Sta. Croce in Gerusalemme, Sta. Maria in Trastevere, Sta. Prassede, St.'s Agnese, Sta. Maria in Cozzedin, Sta. Maria Maggiore, S. Clemente, S. Nereo et Achille, and S. Lorenzo (without the walls).

The Marquess Galani remarks, that the first churches were looked upon as tribunals in which the bishops, &c., administered penance to the guilty and the Euchrist to the absolved; we may therefore observe, in accounting for the resemblance which the early Christian churches have to the ancient Basilicas, that nothing could appear at first sight more appropriate than the idea of imitating a tribunal of justice in the construction of the new churches, in which the bishop stood, and presided as the spiritual justice. This remark is well supported by the fact of the bishop's throne being placed in the apse, or arched recess corresponding to the curved recess or hemicycyle, as it was called, of the ancient Basilicas. It is, however, more probable that the obvious convenience of the Basilicas led the early Christians to adopt the principles of that form of building, as these edifices were both light and spacious, and better adapted to the ceremonies of the new religion than the temples of the Pagans.

Constantine has the reputation of having founded the first of these Basilicas, which was built on the site of his own palace of Lateran, on Monte Celius. Shortly afterwards he built the Basilica of St. Peter, on the site of the Circus of Nero; and that of St. Paul, a third, that of St. Peter's, without the walls of Rome. This church was finished fifty years afterwards by Theodosius; who, if we may trust Procopius, built a continuous portico from the city to the Basilica, covered with a copper roof. St. Peter's was decorated with one hundred columns of white marble; it is, however, now replaced by a more modern structure, the largest of the kind in the world. The external part of the Basilica of S. Giovanni Laterano is of modern construction. St. Paul's was burnt eleven years since, but is now partly restored upon the old plan. The section of this edifice, across the nave, shows the form of the testudo with the inclined roofs of the porticus; and in the spaces between the interior side of the roof of the testudo and the upper line of the roof of the porticus, are formed the windows of the church. The nine other Basilicas, as well as the ancient churches of Sta. Maria in Ara Coeli, S. Martino, S. Vincenzo delle Tre Fontane, Sta. Maria sopra Minerva, and S. Agostino, and several others possess some of the features of the ancient Basilicas.

St. Agnese, however, exemplifies the peculiar character of the ancient Basilicas in so striking a manner, that we give a representation of it, which will illustrate the description of Vitruvius.

In this view will be easily recognised the galleries (porticus) running round three sides of the building, and interrupted by the recesses forming the tribunal. In the upper gallery is the plenum, or continued pediment, inclining the
same. The nave corresponds to the Testudo; the apses of the church to the hemicycle of the ancient buildings: the only difference is in the manner of piercing the walls for windows, and in the omission of the large columns of the testudo, the two orders of columns standing in the places of the ancient parastasism. It is probable that the construction of the roof of the ancient Basilica was exposed, as it is shown here, and as was the invariable practice in almost all the church Basilicas of Rome. These Basilicas are built from the old materials of other edifices, and the parts are put together without much regard to symmetry, so that there are often Ionic, Corinthian, and Composite capitals placed on shafts of columns of various diameters, with portions of entablatures above them, which originally belonged to dissimilar edifices. Santa Maria in Trastevere is an example of these incongruities: here also the throne in the apse has an antique form, very similar to the hemicycle of the Street of Tombs at Pompeii. The Roman church Bas-
Basils are remarkable for their mosaics [see Mosaics] decorations. The pavements of many of them are enriched with tesserae forming the hardest marbles. The arches of the apses are often decorated with figures of saints or apostles upon a gold ground, the whole mosaic being formed of glass tesserae; but the most sumptuous mosaics are those of St. Peter's, of modern execution, but truly among the works of the great Italian painters, that none but a practised eye can detect the difference.

Not only the apses, but the general form of the nave and aisles, of our ancient cathedrals is evidently borrowed from the basilicas of Egypt. Thus campanile, the bell-tower, is a feature of the old village churches of England. The nave corresponds to the testudo, and the side aisles to the porticus; the windows of the nave, externally seen are above the lean-to, and correspond to the opening between the upper part of the columns of the testudo.

Modern Basilicas exist at the present day in Italy, applied, as the antients, were to civil purposes. Palladio gives the name of Basilica to such public buildings, many of which are found in the Italian towns. Part of the Basilica of the present day serve as the palaces of the magistrates, and in them they administer justice, while the lower parts are occupied by merchants, &c. Speaking of these edifices, Palladio says: "While I was in Padua, I observed the difference in the basilican buildings, that while theirs were on the ground-floor, ours are elevated on arches, and the parts beneath the arches are used as shops, prisons, and for other public purposes. Another difference is that the antients had porticoes only in the interior of the basilica, the colonnades have them on the exterior." There is an example of such a Basilica at Padua, and another at Brescia; but the most celebrated is that at Vicenza, the exterior of which is after the design of Palladio. The body of the building is supposed by some to have been erected during the reign, and by the command, of Theodoric the Goth. This Basilica is 162 feet long by 63 wide; the curved roof is of wood, covered with lead; the great hall is 26 feet 10 inches high, and 108 feet broad. The whole edifice, which reflects great credit on the skill of Palladio, is called at Vicenza: "Il Palazzo della Ragione." The architect, though a modest man, was so well satisfied with his own performance, that he expressed an opinion that this construction was equal to any Basilica of antiquity.

In England the town-hall, and in France the Palais de Justice, correspond, in some respects, to the modern Italian Basilicas.

In modern structures, the form of the Basilica might be applied to markets, for which purpose it is well adapted, both for convenience and ventilation. Liverpool market, which is, perhaps, in these respects, the most perfect in the world, consists of several roofs placed side by side, resembling the principal roofs of the Roman Basilicas. (Vitruvius; Nardini's Rome; Nolli's Plan of Rome, with the Fragments of the Ancient Plan; A Series of Geometrical Plans and Sections, and Perspective Views of the Roman Church Basilicas, by J. G. C., Rome, 1823-24; Eustace's Class. Tour; Plan of Pompeii, by the Society for the Diffusion of Useful Knowledge; Marquesa Galliani's Translation of Vitruvius; Life of Palladio, by M. Quatremère de Quincy; Encyclopédie Méthodique, Architecture; Notizie sulla Antichità della Italia, Roma.)

BASILICATA, one of the fifteen provinces of the continental part of the kingdom of the Two Sicilies. It lies south of the Terra di Bari and Capitanata, east of the two Principati, and north of Calabria. It occupies the greater part of the ancient Lucania, the remainder of which is included in the province of Principato Ultra. Basilicata lies almost wholly on the eastern side of the main ridge of the Apennines, and its rivers flow into the Gulf ofTaranto, or the Ionian Sea, as the Italians call it. The main ridge, or backbone of the Apennines, running in the south-east direction through the province of Principato Ultra, forms a large mass above Conza, between the sources of theOFanto on one side, and those of the Sele on the other. One of the sources of the Sele is called Conza, which is thrown off two lateral branches, one to the eastward towards the peninsula of Otranto, and another westward towards Cape Campasella, the main ridge then enters Basilicata north of the town of Muro, bending almost due east, and giving rise to the Bradano on its eastern, and the Fiume Bianco on its southern slope. South of the sources of the Bradano, it sends off another branch due east, dividing the water of the Bradano from those of the Basento. In this projection is the high summit called Monte Aruca, and on its slope the sources of the Basento and the town of Potenza. From this point the main ridge runs due south by Mario Nuovo, between the sources of the Agri, which flows southward, and those of the Torrente Nero, or Tanaro, which is one of the tributaries of the Sele. The river then approaches the Mediterranean Sea, near Lagonegro, above which is the lofty group called Monti Sirini, on the eastern slope of which the Siria, now called Sinno, has its source. Further south, the river runs parallel with the road of the same name, which extends to Reggio di Calabria, and then approaches the coast, extending about 12 miles along its coast, between Sapri and the river Trechina. The maritime town of Marsata, and the inland town of Lagonegro and Lauria, the two last on the high road from Nocera to Calabria, belong to this district of Basilicata. Further north another slip of Basilicata lies also on the western slope of the Apennines, round the town of Muro — a place known in history for the tragic death of Queen Joanna — but the great bulk of the province is on the eastern side of the main ridge, and between the Gulf of Taranto, and the Gulf of Gallipoli. Four rivers (Bradano, Basento, Agri, and Sinno) run through it from west to east, forming as many long valleys, bounded by offsets of the main chain of the Apennines, and having a general direction towards the sea, until they sink into a low plain at a distance of about 10 miles from the coast. These were the plains of Metapontum and Herculais, renowned in former times for their fertility, but now in great measure uninhabited and unproductive. Procedures run from the Ionian Sea, and turning towards the south, the traveller crosses the river Bradano, and enters Basilicata. On the right bank of the Bradano, and between it and the Basento, which rivers are round about, there is the town called Torro di Mare, built by the Angevin kings as a station for coast guards. The sea, however, has receded all along this coast, owing to the alluvia carried down by the rivers, so that Torro di Mare is now only about a mile distant from the shore. Two miles inland from Torro di Mare are the remains of a Doric temple, the plan and style of which appear to have been similar to those of the temples of Paestum. Only part of the two sides remains, consisting of the base of a row of pillars of sandstone, 42 feet high, the other, the stones being about 42 feet square. The pillars are 34 feet in diameter, 16 feet in height, and 8 feet distant from each other. They are fluted and tapering, with a large eutaxiform capital, resembling in shape a shallow bowl, convex at the base, but they rest upon a kind of plinth which belonged to the whole row, the intermediate parts of which between the columns have been carried away. The rows are in the direction east to west. The columns consist of seven blocks each, including the capital. Part of the architrave is all that remains of the entablature. St. Non's Voyage Pittoresque gives the above dimensions and also two views of the temple. It describes the temple as being two miles inland from Torro di Mare, in the direction of the town of Bernalda, on a rising ground in the middle of a vast plain, and almost at an equal distance between the Bradano and the Basento. Swinburne, who also saw the temple, inaccurately describes it as close to the mouth of the river of the same name, and Kepnel Craven, in 1818, accordingly looked for it near the banks of that river and could not find it; but on his return to Naples he was informed that the temple remains nearly in the same state as when Swinburne saw it, and that it lies about four miles from the sea, near the right bank of the Bradano, consequently inland from the road and not between the road and the sea, an indication corresponding pretty nearly to that which is given in the Voyage Pittoresque, as Torro di Mare itself is a mile inland from the sea, as Torro di Mare, and about a mile from the latter place, the authors of the Voyage saw, among the high corn with which the plain was covered, the remains of another temple, of which some massive blocks lay on the ground, and some fluted columns in a back formed of bricks and broken pottery: they suppose this to have been the site of the ancient Me-
tomentum, and that the temple now standing was outside of the town. The town of Bermuda, which is six miles from the town of Bermuda, in the interior, is chiefly built of old materials carried away from the ruins of Metapontum. Corn is still the chief product of this plain, and it formerly constituted the great source of wealth of the people of Metapontum, whose medals bear the wheat-ears as a mark of the fertility of the country.

Proceeding farther south, the traveller crosses the Basi-
etum, near the ancient Caruntum, by a ferry in winter, and at a ford in summer, about three miles from the sea. Passing through a wide plain (large tracts of which are planted with olives, and others sown with corn and figs, and where white, yellow, and red sandstone are the only noticeable habitations), he arrives at another town called Scannia, on the river Salandrella, once a feudal estate belonging to the Princes of Castellanea. Between the Salandrella and the Agri, the ground becomes uneven, and is partly planted with olives, and partly covered with underwood. The Agri, the ancient Achra, rises in the central ridge near Marsico Vetore, about sixty miles from the sea. It is a considerable, and the only one in Basilicata on which a ferry is kept up in summer. Between the Agri and the Simo, which is the next river to the south, lies Poloeco, a large house and farm, once belonging to the Jesuits, and now to the Prince of Gerace. The lower part of the river is about four miles in length, and from the sea to the hills inland, which is nearly an equal distance. Above the hills, the higher mountains of interior Basilicata are seen, with the towns of Tortona, Otricoli, and Montalbano, built up on them. Poloeco is surrounded by hills, and has about 6000 inhabitants. The estate of Poloeco is well cultivated, and produces every variety of corn, vegetables, and fruit, besides pasture for large herds of cattle. The principal revenue, however, arises from the oil and liquors, a manufacture being established on the estate for the preparation of the latter drug. The country abounds with game of every sort, from the rabbit to the deer and wild boar. In the winter months, about 1000 persons are employed on the estate, but only one man is employed on the farm. A few houses stand hereabouts, but the precise spot is not known. A few stones, fragments of statues, medals, and other earthen vases, have been found about a mile from Poloeco.

The port of Simo was probably at the mouth of the Simo, where there is now an open road frequented by vessels, which take in cargoes of corn, liquors, and other produce of the country. In 1733, two bronze tablets, with inscriptions, were found about eight miles above Poloeco, on the northern bank, but only one tablet is now in the possession of the town, which is known by the name of the Hieraclean tablets. They are now in the Museum of the Studi at Naples. South of the Simo, the mountains close upon the sea coast. Four miles south of the Simo is Rosella, the last town of Basilicata on the coastal hill, which is separated by a square mile from the summit, after the fashion of the Calabrese towns. Six miles beyond is Roseto, the first town or village of Calabria Citta. The whole coast of Basilicata, from the Brando to Roseto, is about 24 miles.

The interior of Basilicata is mountainous and wild. A road branches out of the high road from Naples to Calabria at Auletta, and crossing the Apennine ridge leads to Potenza, which is the capital of Basilicata. It is a town of about 15,000 inhabitants, and the residence of the intendente, or governor, of the province, and the seat of the civil and criminal courts of justice. It contains also the royal college of the province. Many Roman inscriptions have been found here (Gutta, Lauria). A road, the only one that crosses Basilicata from east to west, leads from Potenza, through the town of Teramo, to Matera, a distance of about 30 miles through a mountainous country. Matera is a considerable town, near the left bank of the Bradano, and about a mile west of it. The church of the town is an archbishop's see, and was formerly the residence of the governor of the province. The other towns of the interior are Oppio, Accursena, and Montepulciano, which are near the banks of the Bradano and the Mount Cucco. An important road for the transport of goods passes through the central Apennine mountain range, and must be crossed by four passes. They are the Cisternino, Tauro, and Otranto. A part of Basilicata, however, stretches beyond and to the north of this ridge, extending to the banks of the river of the same name, and into the great plain of Puglia. In this district are the towns of Boscotrecase, Melfi, Matera, S. Maria, and Venosa. This district is very fertile in corn. A road leads across the mountains from Potenza through Avigliano to Melfi. Melfi was one of the first places which the Normans became possessed of on their way to Apulia. In the southern part of the interior Basilicata there are no towns of any importance; some villages thinly scattered about the valleys were formerly baronial fiefs, the taxes of which are still borne by Neapolitan families; such are Avigliano, Lauria, Sannio, Frangipane, Marsico Venere, etc.

Basilicata extends nearly 80 miles in length, from N to S, from the right bank of the Ofanto, near Melfi, to the mouth of the river Trechina on the Gulf of Policastro. Its breadth varies from 5 to 10 miles. The province is about 60 miles, between the mouth of the Bradano and the frontier of Principato Citra, near Marano Novo. Swineburne states the surface of the province to be 1,643,000 Neapolitan acres, a measure about one-siirth less than its true extent. He states the population as being 325,000, and it is not likely to have increased much since his time, as Basilicata is one of the provinces of the kingdom in which the least progress in agriculture, industry, or commerce has been made. In his Charta Statutari dell'Italia, Swineburne states the population at 432,000; but another, and a more accurate statistic writer, Afan di Rivera, a Neapolitan colonel of engineers, states, that by drawing a line from Montepezzo near Matera in the north, and carrying it across the Ofanto, and thence from the point on the borders of Calabria, the whole population found to the east of this line and between it and the sea, including the valleys of the Bradano, Basiento, Agri, and Simon, is about 117,000 inhabitants, divided among 33 communes, and 6 dioceses. The country consists of a plain of over 700 square miles, which includes more than one-third of the province, and the most fertile part of it. The districts of Melfi, Laavello, and Venosa, near the banks of the Ofanto, he calculates to contain 70,000 inhabitants. About 400 square miles, which border on the Gulf of Policastro, was the towns of Marata, Luria (4000 inhabitants), and Laginbeko, contains, perhaps, 20,000 more. There remains the midland mountainous division of the country, which, with an area of 400 square miles, contains about 10,000 inhabitants. The Apennines, which border on the Gulf of Policastro, was the towns of Marata, Luria (4000 inhabitants), and Laginbeko, contains, perhaps, 20,000 more. There remains the midland mountainous division of the country, which, with an area of 400 square miles, contains about 10,000 inhabitants. The Apennines, which border on the Gulf of Policastro, was the towns of Marata, Luria (4000 inhabitants), and Laginbeko, contains, perhaps, 20,000 more. There remains the midland mountainous division of the country, which, with an area of 400 square miles, contains about 10,000 inhabitants. The Apennines, which border on the Gulf of Policastro, was the towns of Marata, Luria (4000 inhabitants), and Laginbeko, contains, perhaps, 20,000 more. There remains the midland mountainous division of the country, which, with an area of 400 square miles, contains about 10,000 inhabitants. The Apennines, which border on the Gulf of Policastro, was the towns of Marata, Luria (4000 inhabitants), and Laginbeko, contains, perhaps, 20,000 more. There remains the midland mountainous division of the country, which, with an area of 400 square miles, contains about 10,000 inhabitants.

The origin of the name of Basilicata is not well maintained, though it is believed to have been given to this province by Basilius, emperor of Constantinople, who made the country the seat of a patriarch in the twelfth century. (Gutta, Cartine Latina della Lucania; Swineburne's Two Sicilies; Keppel, Cruise, Through the Southern Provinces of the Kingdom of Naples; Afan di Rivera, Considerazioni sopra Regno della Basilicata.)

BASILISK (Basiliscus, B.C. 46), in zoology, a genus of Sauran reptiles, belonging to the Iguanid family. It is observed that the basilisk of modern zoology is a very different animal from the basilisk (Basiliscus) or royal reptile of antiquity, the Tropodion or Tropidion of Theophrastus, which is translated cockatrice in our English version of the sacred Scriptures, and which was formerly the subject of so many fabulous narrations. The principal circumstances connected with the history of the fabulous basilisk, and of the different traditions upon which the allusion to it in the Scriptures, will be noticed under the head of cockatrice, to which they more properly belong than to the present article. For the present we shall confine our attention solely to the basilisks of modern zoology, and of which, being an American genus (at least its most authenticated species), the ancient sages had no knowledge.

The basilisks are distinguished from other genera of the Iguanid family by the absence of the hind legs, which are more particularly by the elevated crest or tuft which, like the dorsals of some fishes, rears along the whole length of the back and tail, and is supported by the spines procumbent on the surface of the skin. These processes are largest developed in most of the family, and are particularly perfect for the extremity of the back, which those dorsal spines of the ornithopodous forms, and form an enor-

mous abrupt range from the occiput to the origin of the tail - but they are not connected by a membrane as in the basilis-
lians, and consequently are not of the same importance as a
zoological character in influencing the aquatic habits of the
animals. In other respects the basilisks are of a thick and
elongated form, and have the whole outer surface of the
body, as well as the head, neck, tail, and extremities, covered
with small scales, of a rhomboidal form, and, generally
speaking, a smooth surface. The toes are short and thick,
particularly towards the tip of the foot, and the tongue large,
flat, rounded at the point, not excreteable, and attached below to the under-jaw throughout the
greater part of its length; the tail is long, very much
compressed on the sides, and surmounted, at least on the back
next the origin, with a high vertical fin, covered with small
scales like those of the body, and capable of being erected
or depressed at will of the animal. The legs are long,
and the feet provided with five toes, each of which is long,
separate, and furnished with small claws. To the tip of the
foot is attached a membranous bag, which the basilisk has the
power of distending with air, or emptying, as its occasions
require, and which appears to supply in this genus the ab-
sence of the dilatable skin on the throat, with which nature
has furnished the guanas, either as a reservoir to contain a
quantity of fresh air to supply their necessities while diving,
or by enlarging their magnitude without adding to their
weight, to assist them in the actions of swimming and in
keeping the head above water, or perhaps for both these
purposes. In the particular case of the basilisks, their
aquatic habits are still more powerfully increased by the
vertical fin of the back, which, like that on the tail, is
capable of being erected or depressed at will of the animal,
and consequently, whilst it does not impede its motions
on the dry land, greatly facilitates its power of swimming
and moving about in the water. In short, these animals
may be said to carry about with them a portable swimming
apparatus, which is of the utmost service to them as aquatic
animals, without encumbering them at other times; a beau-
tiful provision of nature to supply the deficiency of pulmated,
or webbed feet, which, as in the case of all other palmed
animals, would have reduced the progress of the basilisks
on land to a slow and awkward gait, and rendered it alto-
gether impossible for them to ascend trees or move securely
among their branches. Yet their whole organic structure,
the length of their limbs, and the division and flexibility of
their toes, all announce the rapidity of movement and arbo-
real habits of these animals, in which are united, by the
most simple means, functions and habits the most di-
rectly opposed to one another. The genus Ophiura of
authors exhibits much of the same structure, though per-
haps not quite so strongly developed, nor is it easy to con-
ceive any just grounds for separating these animals from
the basilisks. Two species only are usually referred to this
genus.

1. The Hooded Basillisk (B. mitratus, Daunin) measures
seven or eight inches from the nose to the origin of the
tail, which is itself nearly twice as long again, being
nineteen or twenty inches in length. This animal is easily
recognized by the generic characters already described,
and more especially by the bag or hood of the occiput,
which may be said to be in a manner peculiar to it, since it
is but slightly indicated in the other species; this bag,
when distended with air, is about the size of a pullet’s egg.
The sides of the bag are slightly marbled on the back and sides with different shades of blue, and silvery-white on the belly. Transverse bands of a deep brown colour, but broken and irregular, pass
down the sides from the dorsal fin to the flanks; two small
whitish bands pass over the eyes and from the corners of the
mouth, and five or six small, oblong splotches on its back,
and the tail is so remarkably attenuated towards the ex-
tremity, as to show the articulations of the vertebrae beneath.
Seba, who first described this animal, besides identifying
it with all the ridiculous sorcerer’s tales of the native
during the middle ages concerning the fabulous basilisk or
cockatrice, has encumbered its history with various specula-
tions of his own, which, if not absolutely absurd, are to the
full as injurious in a zoological point of view. He calls it,
and the monstrous and fearsome animal, whose first
chance of success people had to know was to put it in the
cauldron of flying, a faculty which is quite as foreign to the basilisk as it
is to a trout or perch, which he says it resembles in the
shape of its fins, and an old etymology which did not suggest to him a similarity of function likewise,
which would have been much nearer the truth than the
strange hypothesis he has adopted. This species inhabits
Guiana and the tropical parts of South America generally:
its habits have been sufficiently noticed in speaking of the
general characters of the genus.

2. The Created Basillisk (B. Ambonensis, Daunin), a large
species, upwards of three feet in length, is of a green
marked color, white lines on the head and neck,
brown on the back and tail, and silvery-white on the belly,
irregularly dotted with numerous white points. This species,
as its scientific name imports, is an inhabitant of Amboyna
and the islands of the Indian Archipelago generally. It keeps
with the vicissitudes of the fresh and salt waters and may
be found on the banks of the streams which overhang the
water. On the appearance of danger it drops into the
water, and conceals itself beneath some rock or stone,
and there it may lie for a long time. It is a voracious,
noisy, for it is a stupid and timid animal. It is caught
for the sake of its flesh, which is white and as tender as
chicken: in taste it is said to resemble venison.
The female deposits her eggs in the sand, and leaves them to be
bathed in the sun, paying no attention afterwards to her
young progeny.

BASELLUS (Basillus), the Macedonian, Emperor of
Constantinople, was born of poor parents in a village of
Macedonia, towards the beginnings of the hind century.
When twenty-five years of age he proceeded to Constanti-
ople to seek for better fortune. He there found a friend
in the superior of a monastery where he had applied for shel-
ter, who introduced him to the service of an officer of the
court of the Emperor Michael III. Having become known
to that sovereign, he gained his favour, and became his
chamberlain in 861. He soon after took a wife, who was a
concubine of Michael. The patrician Bardas, a relation of
the emperor, became jealous of him fostered by his
adventurer, fearing his machinations, anticipated him by
accusing him of conspiring against the emperor. Bardas
having exculpated himself, Michael and Basilus swore
before the patriarch on the sacrament, that they would
not molest anything against him. Soon after, when the
rivals were accompanying Michael on an expedition, Basilus
assassinated Bardas in the emperor’s tent, and was made
by Michael his colleague in the empire, A.D. 866. Michael
remaining himself odious by his cruelty and debauchery,
Basilus overshadowed with him, but he only irritated
the emperor, who attempted to depose his colleague. But
Basilus anticipated the emperor’s design: he formed a plot
with some other officers of the palace, and when the em-
peror one evening retired to his room in a state of intoxica-
tion, they murdered him in his bed, A.D. 867.

Basilus was now proclaimed emperor; and his conduct
on the throne which he had obtained through crime was
such as to reconcile to it. He re-established the
strict administration of justice, corrected the abuses
that had crept into every branch of the administra-
tion under the profligate reign of Michael, and began the
compilation of a code of laws, which, under his con-
tinued successor, Constantine VII., he retained the name of
Ba-

iches. He discontinued the mysterious and dangerous
sorcery practised by Photius, who had usurped the patriarchate, and re-established the patriarch
Ignatius in the exercise of his functions. He assembled a
great council. Photius, under the Venerable Leo III., sent his legates, and in which Photius was
concerned, and a temporary reconciliation between the eastern and the western churches was
effected. Basilus carried on the war in Apulia against the Saracens, at first as an ally of

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the Emperor Ludovicus II., but he afterwards quartered with him and withdrew his troops. He was more successful against the Saracen in Asia, recovered the greater part of Asia Minor, and carried the arms of the empire to beyond the Euphrates. For many years they had been seen for a long time. He defeated the Paulicians, a sect that had established itself in Pontus, and had been for many years in a state of revolt against the empire. Basilius entered into a treaty of friendship with the Patriarch of Constantinople, who converted many of that nation to Christianity, and from that time the Russians began to acknowledge the authority of the Greek Church. At the end of 877, Ignatius died; and Photios being restored by Basilius to the bank of the Thebes, he broke out between the Greek and the Roman Churches. In 880 the Greeks lost Syracuse, which was taken by the Saracens after a long siege. Basilius died in 886 of a blow which he received from a sword of the Saracen chiefs, in the battle of Mylasa (Mayas). He left a son, Michael (Mikhael), addressed to his son Leo, which is divided into sixty-six short chapters, containing many good maxims for his conduct. It has been published under the title of Basili Imperatoris Exhortationum Captia LXI. ad Leonem filium cognominem filiophilum. Paris, 1584. 4to, by P. Morel; and also at Göttingen, 12mo, 1764, by Just von Dransfeld. Another work by Basilus, also addressed to Leo (Brisa saxenopis icr ror fior abo Alexei Basilii), was his Life of Alexius, by A. Mai in vol. ii. of his Hafciicum Collections, pp. 679-681.

BASILIIUS was the son of the Emperor Romanus the younger. Upon the death of Romanus in 963, the crown was usurped by Phocas, who, six years after, was put to death by John Tzimiskes, who then took the imperial crown himself, but acknowledged, as his successors, Basilus, and his younger brother Constantine, who were then minors. When Zimisces died in 975, the two brothers were proclaimed emperors under the guardianship of the eunuch Basilus. The empire was disturbed for several years by the revolts of Bardas Sclerus in Asia, and afterwards of Bardas Phocas, who had been sent from Constantinople against Sclerus. Phocas, however, died in 989; and Sclerus implored the parious in the same manner for the restoration of his son. Basilus was one continual warfare against the Saracens, the Bulgarians, the Selavonians, the Emperor Otho III., and the Longobard Dukes of Benevento. The war against the Bulgarians was the most obstinate. It began in 983, and lasted till 1014, when Basilus defeated Samuel, King of the Bulgarians, and ravaged the country round Philippopolis. Being embarrased in his march by 15,000 prisoners whom he had made, Basilus divided them into companies, and then carried them off, excepting only the men in each company, who was to show his companions the way. In this manner they returned to King Samuel, who was so borrilled at the sight that he fled. In 991 he died in battle. The history of the Greek Empire is almost all through a history of horrors. In 1019 Basilus had subdued the whole country of the Bulgarians as far as the Danube. In 1022 he went to make war against the King of Illyria, the modern Georgia, and defeated him. Wlodimir, Grand Duke of the Russians, married Basilus's sister, after having received baptism in 992, and abolished paganism throughout his dominions. Basilus died in 1025, after a reign of fifty years. His brother Constantine, who was nominally his colleague, but had the real power, died a short time after, and his son succeeded him. Basilus was a great and successful warrior, but inhuman, rapacious, and tyrannical. He loaded his subjects with taxes, and left his coffers filled with gold.

BASIN (bažin, Franch; sau gebot, meer gebot, see gebot, German; lasci, Italian), is a term recently introduced into geographical description. It may be applied to any collection of water, as seas, lakes, and rivers; and comprehended in every case all the countries which surround, and drained by the waters which run into such sea, lake, or river.

It is instructive and useful to trace the boundaries of the basin of a sea. If they run far inland, and comprehend a great part of the country, and are surrounded by fertile plains, mountains a populous population, and has in some period of history made considerable progress in civilization. The Bay of Bengal may serve as an instance. The boundary of its basin runs from Cape Comorin along the coast of India, from 85° E. lat., to the north of which it suddenly turns to the east, and advancing from 25° E. long. to 80°, comprises the countries drained by the rivers Tapti and Narbada; but at the source of the latter river it again turns to the west. At the southern extremity of the island of Andaman, the coast is meridian under the parallel of 24°. Afterwards it follows the range of the Aravalli Mountains, and joins the Hima-

layas by the elevated plain which extends between the Sutlej and Jumna, where these rivers run to the sea. This forms the boundary to the farthest extremity at the source of the Brahmaputra, exclud-
ing the northern region traversed by the Tsangpo and the boundary advances still further to the west coast of China. As it advances westward, it makes the most of the Indus, the Ganges, and the Brahmaputra, which runs about half of Europe in extent. Accordingly we find, not only that it is, and ever has been, much frequented by vessels, but also that at a very early period civilisation made considerable progress, and that at all times, the arts of peace have been greatly cultivated within the limits of this basin. No other similar portion of the ocean has so large a basin as the Bay of Bengal, except the Whang-Hai, or Yellow Sea, between the peninsula of Korea and Northern China. At this season, the northern part of China, nor is probably any portion of the ocean traversed by so great a number of trading vessels as the Whang-Hai.

On the other hand, if the basin of a sea is of small extent, the surrounding country is poor, its inhabitants backwastr in civilization, and its ports only occasionally resorted to by vessels. Such is the case with the Arabian Gulf, where the waters are shallow, and the harbours considerable. The northern part of China, nor is probably more than twenty miles across. It was only navigated to any extent when the trade between Europe and India was carried on through Egypt, and was rarely used by trading vessels since the discovery of the round the Cape of Good Hope.

The basins of lakes offer likewise several varieties. Those which are commonly called mountain-lakes, but with more propriety valley-lakes, have in general a very narrow basin, containing nothing but the water of the mountains, and the entrance to which is only an opening by which the water may escape. But the lakes which receive large rivers called plains called steppes, and on that account are called lakes of steppes, have very large basins, and are more extensive than those of many portions of the ocean. Thus the basin of the Caspian is probably almost as large as that of the Mediterranean, and the basin of the Lake of Aral twice as large as that of the Gulf of Persia. [see Lake.]

The term basin is still more frequently applied to the drainage of high lands, especially to that description of a country has begun to be considered as the true basis of its geographical description. Much may be said in favour of this innovation. The character of a country, its climate, soil, and productions, frequently change from the commencement of one of the Mediterranean, and the basin of the Lake of Aral twice as large as that of the Gulf of Persia. [see Lake.]

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The basin of the Nile is very wide in the upper part of its course, comprising probably upwards of 15° of longitude, but in the middle of its course it is so narrow that in most places it only extends the same number of miles, and frequently still less. The Danube, on the other hand, has been at times extended by artificial means to the full breadth of its lower course; the Danube is thus the true boundary of river-basins, which is preserved nearly the same width at its mouth which it attains higher up in its course.

The boundaries of river-basins deserve peculiar attention. The upper parts of the course of large rivers generally lie in the most mountainous countries, and here a communication between the different river-basins can only be effected by roads, as is the case with the rivers which descend from the mountains of the Pyrenees and the Alps, and which pass through the whole breadth of Spain and Portugal. The middle and lower part of their course lies through a plain or country of undulating surface, and in such a region a water communication may be effected by canals. The most extensive system of water communication on the globe is that of the Meuse, on which the towns of Antwerp, Ghent, and Bruges, are situated, entirely by extending the lower courses of the Hoang-Ho and Yan-tso-hiang. When two rivers run through the same plain, nature has sometimes effected a water communication between such rivers by sending a detached branch from one to the other, as in the valleys of the Naman or river of Siam, and the Mek-haun or river of Cambodia; and in Europe, in Northern Sweden, between the Calix and the Skellefte. In these instances, however, the rivers reached the plain in the same direction; but the Casagua in South America unites two rivers, the Orinoco and the Rio Negro, which indeed run in the same plain, but not in the same direction. The boundaries of the basins of some rivers are entirely, or nearly, defined by high mountains, no mountain range intervening between them; the countries in which this takes place, as is the case with many river-basins in Russia, offer peculiar facilities for establishing and maintaining a water communication between them.

The internal structure of the basin also requires examination. Most rivers traverse a country which rises slowly towards their sources, and the ascent is only rapid in the upper part of their course; but some rivers, after issuing from the mountains which give them origin, traverse, in their course to the sea, plains of different elevation. Thus the Danube traverses three extensive plains, that of Bavaria, of Hungary, and of Bulgaria. The first, in its highest part, receives the Rhine, which, with the rivers that drain the Black Forest, probably only 100 feet or less, above the sea level. These plains are divided from one another by extensive mountain ranges, which intersect the basin of the river, terminating on its banks, narrowing its course, and rendering the river at the same time世界上最长的河流。The first of these mountain ranges, which differ in elevation above the level of the sea, must, of course, materially influence in production, soil, and climate. [See Danube.]

Whenever a river, with its tributaries, traverses an extensive basin, the surface of this basin in general presents a grand variety of geological formations. As the upper branches, in such a case, take their origin at a great distance from the sea, they commonly lie in prismatic rocks, but the river gradually descends, and by its current, as it approaches to the shores of the sea, it comes to an alluvial soil, which is partly its own produce and partly that of the sea into which it empties itself. Such is the case with the Rhine. The basin of many little rivers, if a few small tracts of alluvial soil are excepted, presents only one formation, as is the case with many of those which traverse the Highlands of Scotland. It sometimes happens that the bed of a river constitutes the boundary between two different formations, as the Conway in Wales, which divides the province of North Wales from the province of South Wales, which are of secondary formation. The bed of a river is, for the most part, the best index to the constituent parts of the basin which it traverses, by laying open to observation the different strata, in which the adjacent mountains, hills, and plains are composed.

BASINGSTOKE, a market-town and parish, in the hundred of the same name, in Hampshire, 45 miles W.S.W. of London, and 30 N.E. of Southampton. It is situated in a pleasant part of the county, and being at the junction of five roads, one of which is the great western road from London, it has an appearance of much activity and command considerable trade. Although the adjacent country is surrounded with woods, it is rich in pasture, and many of the houses are of brick, the fields are well tilled, and the town, which was formerly mentioned as abounding in trout; this brook (called in the Ordnance Map, No. 12, the Town Brook) rises about one mile and a half west of Basingstoke and is the main branch of the Loddon, an affluent of the Thames. Basingstoke is mentioned in Domesday Book under the name of Basingstokche, and is described as having always been a royal manor which had never paid tax or been distributed into hides, and which had, at the time of the Domesday Survey, a marke of 200 s. The manor of Staute or Stoke, or hamlet, would imply that, previous to the Conquest, it was of inferior importance to Basing, now called Old Basing, in its neighbourhood, and which is historically remarkable for the long and spirited stand which was made in the castle called Basing House, by the Marquess of Winchester, its owner, against the Parliamentary forces, until Cromwell took it by storm and burnt it to the ground in 1645.

A short distance west from Basingstoke is an ancient encampment: the embankment is about 1100 yards in circumference, but no traces of a ditch are visible; it has two entrances, respectively east and west; its form is that of an irregular oval, approaching to an oblong square.

An hospital was established here in the twelfth century, and impotent priests was founded at Basingstoke by Henry III. at the instance of Walter de Merton, bishop of Rochester and Lord Chancellor in that reign, and it became eventually appominate. Mr. Carter, however, is of opinion that the architecture of the chapel is not of later date than the reign of Edward IV., although carvings appear to have been added and alterations made in that of Henry VIII. The fraternity was dissolved in the reign of Edward VI., and its possessions vested in the crown; it was restored by Mary I., and the possessions granted anew for the maintenance of a priest for the celebration of divine service, and for the instruction of the young men and boys of the town of Basingstoke.

When woolen manufactures began to be first established in this country, Basingstoke obtained a considerable share in the business, and was particularly noted for its drapers and shalloons. These manufactures have long ceased; and at present malting and the corn trade are the principal business, which has been much facilitated by a canal (called the Basingstoke Canal) from this town to the river Wey in Surrey, which communicates with the Thames at Woking. The principal market days are on Wednesday, and the fairs on Easter Tuesday, Wednesday in Whitsun-week, 23rd September, and 10th October; all except the second, are chiefly fairs for cattle. The number of houses in the town, according to the return of 1851, was 727; the population was 3581 persons, of whom 1863 were females. The town was incorporated at an early date, and is at present governed by a mayor, recorder, seven aldermen, an equal number of capital burgesses, a high steward, and other officers.
petty sessions are held here. Basingsbroke possesses a free school, a dispensary and three charity-schools, one of which, for the maintenance, clothing, and education of twelve boys, is supported by the Skinners' Company of London. John de Basingsbroke, a distinguished scholar of the thirteenth century, Sir James Lancaster, the navigator, and his brothers Joseph and Thomas Warin, were born at Basingsbroke.

(Gough's Camden's Britannia; Gentleman's Magazine, 1782 and 1802; Warner's Collections for the History of Hampshire; Ritson's 'Hampshire,' in Beauties of England and Wales). BASING, JOHN, or de BASINGSTOKE, who received his name from the place of his nativity in Hampshire, was an extraordinary person for his time. Though the date of his birth is not fixed, we know that he was alive in the year 1236, and studied not only at Oxford and Paris, after the custom of the age, but also at Athens; a fact remarked by Leland as uncommon in the history of English scholars at that time, who seldom proceeded farther eastward for the prosecution of their studies, and improvement in learning, than Rome or Venice. At Athens he studied the sciences under Constantinia, daughter of the archbishop of Athens. Leland says, at his return he brought with him into England various Greek manuscripts, which, together with his proficiency in that tongue, caused Hugh Grosseteste, bishop of Lincoln, a great restorer of that language, to promote him to the archdeaconry of Leicester. In his enumeration of the books consulted by him, as now preserved for us, that Grosseteste sent to Athens for a Greek manuscript entitled 'The Testaments of the Twelve Patriarchs,' which, when obtained, he translated into Latin. The translation was printed among the 'Antiquitates Graecae.' Ed. Basel, 1525. Bale and Pits inform us that Basing was first archdeacon of London, and then of Leicester; but the former preferment is upon no authority. Pegge, in the 'Life of Roger de Wessellam' (from Wharton's 'Anglia Sacra'), instead of Leicester, records Cluny. Matins Paris tells us that John de Basing introduced into England a knowledge of the Greek numeral letters: 'This Master John, moreover, brought the Greek numeral figures into England, taught them, and made use of them in his personal letters, and explained them to his particular friends. By which figures, also, letters are represented: and, what is most remarkable, any number is represented by a single figure, which is not the case in the Roman numerals, or in ordinary arithmetick.' His words are—'hic insuper Magister Johannes graphicus Graecorum numerum, et carum notitiam et significatio...'

The discovery of these letters is attributed to John de Basingsbroke, and the first appearance of the Greek alphabet appears to have been in the work of Basingsbroke under the invention of Athens, 1236.

but Matthew Paris, who knew little about these matters, was mistaken in imagining that the Greeks used any such system of notation. The only MS. of Matthew Paris in which these numerals are found, is the enlarged work in Benet's College Library, Cambridge. They do not occur in either of the two manuscripts of Matthew Paris in the British Museum, Matthew Paris, in the 'Variae Lectiones' (signat. I. on the verso of the leaf) have been specially studied for the modern editor. Matthew Paris, a number of single numbers, are all designated by lines bearing to the left, from the chief upright line. Those representing the numbers, from ten upwards, have the adjunct-lines bearing to the right.

Matthew Paris records the death of John de Basing under the year 1252. His works were—1. Doctrinum Constitutionc liber unus. 2. Particular Sententiarum per distinctiones. 3. Graecorum: a translation, probably intended to serve for instruction in the Greek tongue, as the Rudiments of Donatus did for the Latin. 4. Commentarius Evangeliorum; this is probably the work which Leland calls 'Tractatus de Ordine Evangeliorum per annum.' He is said to have written other works, the titles of which are unknown.


BASKERVILLE JOHN, a celebrated printer, was born at Wolvery in Worcestershire, in the year 1761. He does not appear to have been brought up to any particular business; in 1766 he had his shop at Birmingham, and in 1745 he engaged in the japanning business at the same place, by which he acquired considerable wealth. His taste for literature, and the arts connected with it, led him to direct his attention to the improvement and perfection of the art of printing. The most obvious improvement to be effected was in the shape of the letters. Mr. Causton, previous to Baskerville's attempts at letter-foundnig, had cut a variety of matrices of more beautiful shapes than those of the Dutch types which, up to his time, had been imported into England. Baskerville carried the art to a higher degree of perfection; and even new types would, in many respects, be considered models. We find that about 1760 he commenced printing, and that he made a profit by the pursuit in which he bad engaged his labour and property. By his unceasing efforts the art of printing was raised to a degree of perfection previously unknown in this country. In 1770 he published a book on the subject, that, according to a letter addressed to Horace Walpole, dated 2nd November, 1769, he manufactured his own ink, presses, chases, moulds for casting, and all the apparatus for printing. It is highly probable that some of the processes connected with the art of japanning, by which he carried it on extensively at the same time, contributed, under some modification, to the excellence and beauty of his typeographical productions. It is stated in Hasted's Typographia that he had composed and set some of his type ready, in which, as soon as printed, the sheets were inserted; the wet was thus expelled, the ink set, and a glossy surface put on all simultaneously. Didot, in his Typographia from the Classics, has given the following characters of the works of the Baskerville Press: 'The typography of Baskerville is eminently beautiful; his letters in general are of a slender and delicate form, calculated for an octavo, even a quarto, but not sufficiently bold to fill the space of an imperial folio. Each letter is characterized by its unique form, and the manner of including them is a particular study, and very satisfactory, the letter partaking of a peculiar soft beauty, bordering upon purple. In his Italic letter, whether cursive or small, he stands unvalued; such elegance, freedom, and perfect symmetry being in vain to be looked for among the specimens of Aklus and Colonna.'

Baskerville's printing establishment does not appear to have been profitable to him. It may, however, be remarked, that his work now possesses a great value. His editions of some of the classics are highly esteemed by bibliographers, not only in this country, but on the continent. From a passage in his letter to Walpole, it would appear that in 1764 he was desirous of withdrawing from the business of printing. 'This business he found so time consuming,' he says, 'that I am now tired of it, and repent I ever entered.' After 1765 nothing issued from his press. It is most likely that the typographical improvement which he was the means of effecting in England, and the reputation that his efforts were not very liberally encouraged The University of Cambridge, it is true, granted him permission to print the Bible in folio, and two editions of the Book of Common Prayer; but, at the same time, the University required to be made a share of the profits; 50l. per thousand copies of the Bible, and 12l. 10s. for each thousand of the prayer-book: to the Stationers Company he had to pay 3l. 10s. for their permission to print the Psalms, without which the Prayer-book would have been unprintable.
Mr. Baskerville was married to the widow of Mr. Eave; her maiden name was Ruston. He died without issue. Jan. 8, 1773. He was a man fertile in invention, and of an amiable mind, but he left to others the task of executing his designs. By the constant endeavours which he made to attain excellence in each of the various processes connected with the arts of japanning and printing, they were both highly improved, and many of his works may have been expected from the exertions of a single individual. Mr. Baskerville was rather eccentric in his habits and opinions. He caused each panel of his carriage to be painted so as to represent a picture of his trades; and when he was buried in his parish church, under a structure of masonry in the shape of a cone, his will contains an avowal of sentiments contrary to the doctrines of Christianity. The mausoleum above mentioned was destroyed during the French revolution, and a monument was raised to his memory about 1845. From this place he had dug for sand on its site discovered the leaden coffin which contained his remains; and in May, 1821, it was opened for inspection. The body did not present the usual appearances of decomposition; the singular state of preservation in which it was found may probably be attributed to the entire exclusion of external air. The shroud was perfect and very white, and a branch of laurel on the breast of the corpse was, though five feet long, only soiled by the dust. The body was found in a doubled position, not far from Baskerville in his possession, from which an engraving has been made for Harsard's Typographia. (Harsard's Typographia; Dibdin's Introduction to the Classics.)

Basnag. [See Basel.]

BASNAG. Few families have produced so many individuals of literary distinction and moral worth as the family of Basnag. Many of its members were zealous and able supporters of Protestantism in France.

1. NICOLAS Basnag, being compelled to leave France on account of his adherence to the reformed religion, fled to England, and became the minister of a congregation at Norwich. He afterwards returned to France, and became professor in the university of Caen.

2. Benjamin Basnag, the son of Nicholas, born in 1580, was, during fifty-one years, pastor of the church which his father had held at Caenrent. Benjamin Basnag was a zealous defender of the reformed religion in France. He was successively a provincial deputy of the Protestant churches in Normandy, and head of the assembly held at Rochelle in 1622; and he contributed greatly to the resolutions which were formed in that assembly in consequence of which the opium of war was thrown against the Protestants with fifty thousand men. He also signed the project of defence under the title of Modérateur Ajont, and went to England to solicit aid. The expectations which the French Protestants had entertained of help from France. In 1634 Basnag proceeded to Scotland to gain the interest of his private friends in that country. On the termination of active hostilities against the Protestants, Basnag returned to France, and was appointed deputy for Normandy in the national synod which was held at Charenton in 1693. The provincial synod of Normandy having permitted him to leave his church, his congregation appealed to the national synod at Charenton, which rejected the appeal, and gave Basnag leave to accept a vocation to Rouen or to other places; but he considered his church as his wife, from which he ought not to separate. The vigil and zeal with which he maintained the interests of the reformed religion rendered him an object of increasing suspicion to the court. He made a decree, forbade him to attend the ministers, and refused him permission to appear as a deputy, and to take a part in the synod held at Charenton, a.d. 1631. This synod commenced its session by remonstrances against this decree, which were so forcibly expressed, that the court yielded, and Basnag was admitted to the synod, in the deliberations of which assembly he exercised great influence. He was elected president of the national synod held at Alençon in 1637. The infraction of the decree, and the contrary opinions between the reformed clergy themselves on the universality of grace and the divine decrees, were the leading topics discussed in this synod.

Benjamin Basnag died in 1692. His principal work, a Treatise on the Church ("Traité de l'Eglise"), was printed at Rochelle, 1622. He left imperfect a work against the worship of the Virgin.

3. ANTOINE Basnag, the eldest son of Benjamin, was born in 1610. After the revocation of the edict of Nantes, he was evacuated to England, and arrived at Zutphen, in which place he had held a pastoral charge.

4. SAMUEL Basnag de Flottembrevelle, son of Antoine, was born at Bayeux in 1638. He preached at first in his native place, but escaped with his father to Holland in 1643. He died in 1685. The following sentences are in his handwriting: "Cardinalis Baronii Annales ab an. XXXV. in quo Cassano bonus desit expendiuntur, Traject. 1692. 1717. 4to; Anales Politico-Ecclesiasticos annorum DCXV. Cessare Augusto ad Phocum usque in quibus res impiet ecclesiasticas observavit, in quibus inexpugnabiliter evelluntur Baronie." Rotterdam, 1706. 3 vols. fol.

5. HENRI Basnag de Franquevay, the youngest son of Benjamin Basnag, was born on the 16th of October, 1613, at St. Mère Église, in Lower Normandy. He studied for the bar, and became one of the most able and eloquent advocates in the parliament of Rouen, where he took the oaths in 1636. His learning was immense and his integrity unsullied. He died in 1694, and left three sons, two of whom were in the service of the States General, in 1693. His daughter, Magdalene, married, in 1662, M. Paul Baldry, or Baudri, who leaving France after the revocation of the edict of Nantes, was made professor of ecclesiastical history at Utrecht.

His works are, Coutumes des Pays et Duché de Normandie, avec commentaires, 2 vols. fol., 1678, 1681, 1694; Traité des Hypothèques, 1697, 1724, 4to. The complete works of Basnag were published in fol., Rouen, 1776.

6. Jacques Basnag de Beaumont, the eldest son of Henri, born at Rouen, 8th of August, 1653, was the most celebrated member of his family. He was sent when very young to Saumur, to study under the famous Tannequin, or Tannequin, and then under Veyne, the favorite pupil of his master. Le Veyne endeavored to disgust him with the profession of the ministry. 'You know this office,' he said to him, 'only by its bright side, and are ignorant how it has declined since its first institution. Believe me, you are too honest a man to become an ecclesiastic. You are too candid to exercise these functions as they are at present exercised, and your frankness would render the greatest part of your colleagues your enemies.' There may have been some animal sense in these words. Le Veyne, since he was unfriendly to the clergy of Saumur, who had caused him some trouble. The advice of the master did not overpower the resolution of the pupil, and Basnag followed from Saumur to Paris.

At the age of seventeen he went to Geneva, already well read in the best Greek and Latin authors, and acquainted with the Spanish, Italian, and English languages. At Geneva he studied theology under Mestrezat, Turrein, and Tromelin; and at Sedan under Jureau and Basnag. On his return to Rouen he was received into the ministry in September, 1676, at the age of twenty-three, and became pastor of the reformed church in that city. He married, in 1684, Anne du Moulin, daughter of Cyrus du Moulin, and grand-daughter of Peter du Moulin.

The church at Rouen being closed by authority in June, 1695, Basnag obtained permission from the king to return to Holland; and accordingly he settled at Rotterdam, in 1696, in order to exercise his call. He filled the function of the consistory, influenced by Heinau, appointed him pastor of a church at the Hague. At the Hague he not only exerted himself in his religious duties with indefatigable zeal, but was also employed in state affairs. He was the medium of a secret negotiation carried on by Marlborough, the plenipotentiary of the French king at the congress of Utrecht, and acquitted himself in this affair with so much ability, that he was afterwards employed in several important commissions. The French were between the French and Dutch in Holland, and had great confidence in Basnag, communicated to him all his intercourse with the States. The Abbé, afterwards Cardinal, Dubois being at the Hague in 1716, to negotiate a defensive alliance between France, England, and the States General, recalled him to Paris, and placed him in Orleans, the Regent, to apply to Basnag, and to regulate his conduct by the advice he should receive. Dubois acted
Emilianus, Porcia, &c. (Livy, xliii. 44.) At the time of the conflagration recorded in Livy (xxvi. 37), B.C. 210, there were no Basilicas then built. We read in the Bellum Alexandrinum (cap. 53) that the Basilica was used in the Spanish provinces at the date (B.C. 47) to which that work refers.

[Copper Coin of Trajan, from the British Museum, representing on the reverse the Quadra of the Basilica Ulpia.]

The principal feature of the Basilica was a large roofed building, supported on columns. The roof, which was called the testudo, rose high above the other part of the structure, which consisted of two galleries, called porticus, placed one above the other, and round the internal sides of the central building. The porticus was covered with a lean-to roof, the upper part of which was supported by the capitals of the upper columns which supported the testudo. The light was admitted between the spaces formed by the under line of the architrave of the testudo, the upper line of the lean-to roof, and the perpendicular lines of the columns. At the end of the central part of the interior a raised platform formed the tribunal for a magistrate. The term testudo, as its name implies, is strictly the roof of the central part; but the term is also extended to signify the whole of the central space, which corresponds to what we call the nave of a church: the porticus correspond to the aisles.

The Basilica was not only used as a hall for the administration of justice, but afforded also convenient shelter to the merchants who transact business there. Vitruvius, who constructed a Basilica at the Julian colony at Panum, informs us that it ought to be built on the warmest side of the forum, that those whose affairs called them there might confer together without being incommoded by the weather. "The breadth," he says, is not to be made less than the third, nor more than half, the length, unless the nature of the place opposes the proportion, and obliges the symmetry to be different: but if the Basilica has too much length, chalcidices are made at the ends; [see Chalcidicum], as in the Basilica of Julia Aquilia. (Newton's Translation)

The site and proportions of the buildings varied according to circumstances. The following proportions are given by Vitruvius for the various parts of the structure. The columns of the Basilica (by which Vitruvius means the columns engaged in the wall) are to be made as high as the porticus is broad, or the porticus is to be as wide as the third part of the space in the middle. The columns of the upper gallery must be one-fourth less than the lower. The pluteum (continued pedestal) must be made one-fourth less in height than the upper column, and be placed between the upper and lower columns, that those who walk above may not be seen by the merchants: from which circumstance it would appear that the upper gallery was intended for a purpose distinct from the uses of the lower gallery. It is probable that the upper gallery seems kinds of banderolis were carried on.

The dimensions of the Basilica built by Vitruvius at Panum were as follows: - The testudo 120 feet long, and 50 feet broad; the porticus between the walls and columns of the testudo, 20 feet broad; the height of the columns of the testudo, including their capitals, 60 feet, and the diameter 5. Behind these were parastatae, or small piers, 20 feet high, 25 feet broad, and 1 foot thick, to sustain the beams intended to bear the floor of the gallery. Of these were other parastatae, 15 feet high, 2 feet broad, and 1 foot thick, which supported the lean-to roofs. The remaining space between the beams which were laid over the upper parastatae, and the architraves of the columns of the testudo, was open to the light. In the Basilica at Panum, the testudo was supported by eighteen columns, four each end, six on one side and four on the other, the two centre columns being omitted on this side, that the view of the proemion of a temple to Augustus might be seen. The tribunal in this building was in the form of a curved recess, 66 feet wide, and 13 feet deep. To this information Vitruvius adds the proportions of the timbers of the roof.

1. Elevation of part of the Basilica, showing the columns of the Testudo above the lean-to roof of the Porticus. 5. Longitudinal section through the Testudo. D. D. Porticus, E. S. columns of the Testudo.

[Drawing according to the dimensions given by Vitruvius]

It is probable that Rome possessed Basilicas on all the different fora of the city. Of those the Basilica of Trajan, which formed a part of the Forum Trajanum (see Forum), is the only one of which there are considerable remains left; it is represented on the reverse of the medal coins we have given above. Another Basilica, of the Caracales order, was discovered on the Palatine Hill. A large edifice in the Forum, called the Temple of Peace, has also been named the Basilica of Constantine.

The Emperors Gordian, in their magnificent country residences built on the Via Prisciana, had the Basilica 100 feet in length. Two famous Basilicas of Emerita and Fulvia, were built at Primosted (Polarium), between which Sylla caused a magnificent sun-dial to be placed. Marble fragments of the plan of Rome, now preserved in the Capitol at Rome, which was made during the reign of Septimius Severus, show a part of the Basilica. Amilcare, from which it appears that, unlike the other Basilicas, it had no external wall. In this last respect, it may be compared to a very ancient Greek edifice at Ptolemais, which has been generally considered a Basilica. This building is an enclosure of columns, without any internal or external walls, and divided in the centre by an order of columns, with another above it. A Basilica which was discovered some years since at Otteroli, had a curvilinear recess or bema, relieved with statues, which were removed to the museums of the Vatican.

The most perfect Basilica of antiquity, and which best corresponds with the building described by Vitruvius, exists in Pompeii, constructed on the south-west, and command apples the warmth of the Forum. The edifice is 225 feet by 50. The testudo rose to the height of about 60 feet, judging from the diameter of the portions of the columns still remaining. These columns are twenty eight in number, four of which are placed at each end, and the rest on each side of the testudo; they are customarily constructed of brick, and covered with stumps. At the extremity and in the tribunal, raised on a platform, to which the ascent on each...
The light, most probably, was admitted in the manner mentioned by Vitruvius; but, in addition, there were windows at the back of the tribunal, which perhaps were at one time glazed, as glass for windows was in common use at Pompeii. The stone door-jams are remarkable for a large groove, in which we may conjecture that the wooden door frames were fixed. The doors appear to have folded, as the marks left on the sill, from the opening and shutting, still remain. The order of the small engaged columns is Corinthian, and the style very similar to that of the Temple of Vesta at Tivoli, and, like that edifice, this Basilica was covered with a fine marble stucco. The most singular decoration is observed in the rusticated plastering of the interior, where the rustics are painted in every variety of colour. The order of the testudo is unknown, as there are no remains of the capitals. It is probable that the columns, from their height, were never covered with the ashes of Vesuvius, which circumstance enabled the inhabitants to remove them.

The early Christian churches of Rome may be considered as the best resemblances of the Roman Basilicas. In some of them are still found many of the characteristics of the ancient Basilica. There are twelve churches called Basilicas, the oldest of which dates from about the time of Constantine, and is even said to have been built by that emperor. These edifices are S. Pietro, S. Paolo (without the walls), S. Giovanni Laterano, S. Croce in Gerusalemme, S. Maria in Trastevere, S. Maria Maggiore, S. Agnese, S. Maria in Cosmedin, S. Maria Maggiore, S. Clemente, S. Nereo et Achille, and S. Lorenzo (without the walls).

The Marquessa Galliari remarks, that the first churches were looked upon as tribunals in which the bishops, &c., administered penance to the guilty and the Eucharist to the absolved; we may therefore observe, in accounting for the resemblance which the early Christian churches bear to the ancient Basilicas, that nothing could appear at first sight more appropriate than the idea of imitating a tribunal of justice in the construction of the new churches, in which the bishops and priests were to administer a kind of spiritual justice. This remark is well supported by the fact of the bishop’s throne being placed in the apsis, or arched recess corresponding to the curved recess or hemicycle, as it was called, of the antient Basilica. It is, however, more probable that the obvious convenience of the Basilicas led the early Christians to adopt the principles of that form of building, as these edifices were both light and spacious, and better adapted to the ceremonies of the new religion than the temples of the Pagans.

St. Constantine has the reputation of having founded the first of those Basilicas, which was built on the site of his own palace of Latoran, on Mount Celius. Shortly afterwards he built the Basilica of St. Peter, on the site of the Circus of Nero; and finally commenced a third, that of St. Paul without the walls of Rome. This church was finished fifteen years afterwards by Theodosius; who, if we may trust Procopius, built a continuous portico from the city to the Basilica, covered with a copper roof. St. Peter’s was decorated with one hundred columns of white marble; it is, however, now replaced by a more modern structure, the largest of the kind in the world. The external part of the Basilica of S. Giovanni Laterano is of modern construction. St. Paul’s without the walls was burnt down a few years since, but it was now partly restored upon the old plan. The section of this edifice, across the nave, shows the form of the testudo with the inclined roofs of the porticus: and in the spaces between the under side of the roof of the testudo and the upper line of the roof of the porticus, are formed the nine other Basilicas, as well as the antient churches of S. Maria in Ara Coeli, S. Martin, S. Vincenzo delle Tre Fontane, S. Maria sopra Minerva, and S. Agostino, and several others possess some of the features of the antient Basilicas.

St. Agnese, however, exemplifies the peculiar character of the antient Basilicas in so striking a manner, that we give a representation of it, which will illustrate the description of Vitruvius.

In this view will be easily recognised the galleries (porticus) running round three sides of the building, and interrupted by the recess forming the tribunal. In the upper gallery is the plenum, or continued pedastol, inclosing the
same. The nave corresponds to the Testudo; the apses of
the church to the hemicycle of the antient buildings; the
only difference is in the manner of piercing the walls for
windows, and in the omission of the large columns of the
testudo, the two orders of columns standing in the places
of the antient parastaseis. It is probable that the con-
struction of the roof of the antient Basilica was exposed, as
it is shown here, and as was the invariable practice in almost
all the church Basilicas of Rome. These Basilicas are built
from the old materials of other edifices, and the parts are
put together without much regard to symmetry, so that
there are often Ionic, Corinthian, and Composite capitals
placed on shafts of columns of various diameters, with por-
tions of entablatures above them, which originally belonged
to dissimilar edifices. Santa Maria in Trastevere is an
eexample of these incongruities: here also the throne in
the apsis has an antique form, very similar to the hemicycle
of the Street of Tombs at Pompeii. The Roman church Bo
sions are remarkable for their mosaic [see Mosaic] decorations. The pavements of many of them are enriched with the most elaborate patterns made of the hardest marbles. The arched head of the apsis is often decorated with the figures of angels and personifications of the seasons, the whole mosaic being formed of glass tesserae; but the most sumptuous mosaics are those of St. Peter's, of modern execution, which represent so truly the great works of the best Italian artists that none but a practised eye can detect the difference.

Not only the apsis, but the general form of the nave and aisles, of our antient cathedrals is evidently borrowed from the Italian church Basilica. The name is also true of this church in England, as it is called the tents of the testudo, and the side aisles to the porticus; the windows of the nave, which externally are seen above the lean-to roofs of the aisles, correspond to the openings between the upper part of the columns of the testudo.

Modern Basilica exist at the present day in Italy, applied, as the antient were, to civil purposes. Palladio gives the name of Basilica to such public buildings, many of which are found in the Italian towns. Part of the Basilice of the present day serve as the palaces of the magistrates, and in them they administer justice, while the lower parts are occupied by merchants, &c. Speaking of these edifices, Palladio says, 'Our modern basilicas differ from the antient in this, that while theirs were on the ground-floor, ours are carried up to the second story. Ours are used as shops, prisons, and for other public purposes. Another difference is that the antient had porticoes only in the interior; the moderns, on the contrary, either have none, or have them on the exterior. There is an example of such a Basilica at Padua, and another at Brescia, but the most celebrated is that at Vicenza, the exterior of which is after the design of Palladio. The body of the building is supposed to be that of Scanozzi to have been erected during the reign, and by the command of Theodore the Great.' This Basilica is 162 feet long by 63 wide; the curved roof is of wood, covered with lead; the great hall is 26 feet 10 inches above the ground-floor, and is supported on piers. This edifice, which reflects great credit on the skill of Basilica, is called Vicenza [Il Palazzo della Ragione]. The architect himself, though a modest man, was so well satisfied with his own performance, that he expressed an opinion that this construction was equal to any Basilica of antiquity.

In England, the town-hall, and in France the Palais du Justice, correspond, in some respects, to the modern Italian Basilica. In modern structures, the form of the Basilica might be applied to markets, for which purpose it is well adapted, but probably the best manner of using them is as gardens, which is, perhaps, in these respects, the most perfect in the world, consists of several roofs placed side by side, resembling in some degree the roof of the testudo.

BASILICA OF ROME, (Cont.)—View of Rome, with the Fragments of the Ancient Plan; A Series of Geometrical Plans and Sections, and Perspective Views of the Roman Church Basilica, by I. G. G., Rome, 1823-24; Eustace's Classical Tour, Plan of Pompeii, by the Society for the Diffusion of Useful Knowledge; Marquesa Galan's Translation of Vitruvius; Life of Palladio, by M. Quatremiere de Quincy; Encyclopedie Methodique, Architecture; Notizie sulla Antichita & Belle Arti. (Roma.)

BASILICATA, one of the fifteen provinces of the southern kingdom of the Two Sicilies. It lies south of the Terra di Bari and Capitanata, east of the two Principalities, and north of Calabria. It occupies the greater part of the antient Lucania, the remainder of which is included in the province of Principato Cusma. Basilicata lies almost wholly on the eastern side of the main ridge of the Apennines, and its rivers flow into the Gulf of Taranto, or the Ionian Sea, as the Italians call it. The main ridge, or backbone of the Apennines, running in a south-east direction from the Principato Cusma, forms a range of mountains above Conza, between the sources of the Osafo on one side, and the peninsula of the Sele on the other. One of the summits of this mass is called Monte Lucano. Having traversed the town of Valle D'Agri, one ascends the peninsula of Otranto, and another westward towards Cape Campenella, the main ridge then enters Basilicata north of the town of Muro, bending almost due east, and giving rise to the Bradano on its eastern, and the Fiume Bianco on its south-western slope. South of the sources of the Bradano, it sends off another branch due east, dividing the waters of the Bradano from those of the Basiento. In this projection is the high summit called Monte Acuto, and on its southern slope are the sources of the Basiento. The main ridge runs due south by Mario Nuovo, between the sources of the Agri, which flows eastward, and those of the river Negro, or Tanagro, which is one of the tributaries of the Sele. It then approaches very near the coast of the province of Lecce, near the town of Villa Zanclo, and enters a lofty group called Monti Sinini, on the eastern slope of which the Siria, now called Sinino, has its source. Further south the ridge enters Calabria east of Castellucia and Rossano, above the town of Monopoli (Mons Apollinea), which is the highest point in the southern part of the kingdom, being above 7000 feet. A small part of the province of Basilicata lies west of the central ridge, and between it and the Gulf of Policastro, extending about 12 miles along its coast, between Sapri and the river Trechina. The maritime town of Maratea, and the inland towns of Lagonegro and Lauria, the two last on the high road from Naples to Calabria, belong to this district of Basilicata. Further north another slip of Basilicata lies also on the western slope of the Apennines, round the town of Muro—a place known in history for the tragic death of Queen Joanna I. But the great bulk of the province lies east of the main ridge, and between it and the Gulf of Policastro. The rivers Siria (or Sinino) run through it from west to east, forming as many long valleys, bounded by offsets from the main chain of the Apennines. These offset slopes slope gradually toward the sea, and in many places are separated from the sea by hills of about 10 miles from the coast. These were the plains of Metapontum and Heraclea, renowned in former times for their fertility, but now in great measure uninhabited and unwholesome. Proceeding from Taranto along the coast, and turning toward the north, one enters the province of the river Bradano, and enters Basilicata. On the right bank of the Bradano, and between it and the Basiento, which rivers are only four miles distant from each other, is a square tower called Torre di Mare, built by the Angevins kings as a station for coast guards. The river Bradano is navigable all along this coast, owing to the alluvia carried down by the river, so that Torre di Mare is now about a mile distant from the shore. Two miles inland from Torre di Mare are the remains of a town tenacious, the plan and style of which appear to have been similar to those of the temples of Paestum. Part only of the two sides remains, consisting of two rows of pillars of sandstone, ten in one row and five in the other, the rows being about 16 feet 16 inches 16 feet 16 inches 16 feet 16 inches 16 feet 16 feet 16 feet 16 feet 16 feet from each other. They are fluted and tapering, with a large cisthiform capital, resembling in shape a shallow bowl covered with a thin stone. They have no entablature, and are planted with a low wall extending from the whole row, the intermediate parts of which between the columns have been carried away. The rows are in the direction east to west. The columns consist of seven blocks each, including the capital. Part of the architrave is all that remains of the entablature. St. Non's Voyage Pittoresque gives the above dimensions, and also two views of the temple. It describes the temple as being two miles inland from Torre di Mare, in the direction of the town of Brennada, on a rising ground, and in the surface of the earth are a few feet from each other, and all the ground is covered with the banks of that river so that one could not find it; but on his return to Naples he was informed that the temple remains nearly in the same state as when Swinburne saw it, and that it lies about four miles from the sea, near the right bank of the Basiento, consequently the distance between the road and the sea, an indication corresponding pretty nearly to that which is given in the Voyage Pittoresque, as Torre di Mare itself is a mile from the sea-shore. Returning from the temple town of Basiento, and on the right bank of the river, one of the columnists, the Voyage Pittoresque, among the high corn with which the plain was covered, the remains of another temple, of which some massive blocks lay on the ground, as well as the foundations of other buildings, and a hillock formed of bricks and broken pottery; they suppose this to have been the site of the antient Mo...
tontum, and that the temple now standing was outside of
the town. The town of Bernalda, which is six miles from
Torred-Mare, in the interior, is chiefly built of old materials
carried away from the ruins of Metapontum. Corn is still
the chief produce of this plain, and it formerly constituted
the great source of the wealth of Metapontum, which be
measured by the wheat-sheaf as a mark of the ferti-
licity of the country.

Proceeding farther south, the traveller crosses the Bassi-
ento, the ancient Casentus, by a ferry in winter, and at a
full tide another more numerous ferry in the sea. Pass-
ing through a wide plain (large tracts of which are
planted with liquorice, and others sown with corn, and in
which two small villages, San Teodoro and San Basile, are the
only habitations), he arrives near the old Scantua,
or Scantura, once a feudal estate belonging to
the Princes of Castellaneta. Between the Salan-
drella and the Agri, the next river to the south, the
ground becomes uneven, and is partly planted with olives,
and partly covered with underwood. The Agri, the antient
Aciris, rises in the central ridge near Marasci Ulverove, about
60 miles from the sea. It is a considerable river, and the
only one in Basilicata on which a ferry is kept in summer.
Between the Agri and the Sinno, which is the next
river to the south, lies Policoro, a large house and farm,
belonging to the Jesuits, and now to the Prince of
Germone. The estate occupies the whole space between
the two rivers, about four miles in length, and from the
sea to the hills, about the same distance. Above the
hills, the higher mountains of interior Basilicata are seen,
with the towns of Tursi, Pisticci, and Montalbano, built
upon them. Montalbano is ten miles from Policoro, and
has about 6000 inhabitants. This is a fertile land, and
produces every variety of corn, vegetables, and fruit, besides pasture for large herds of cattle.

The principal revenue, however, arises from the oil and
liquorice, a manufacture being established on the estate for
the preparation of the latter drug. The estate is bounded with gardens of every sort, from the rabbit to the deer and wild boar.

In the winter months, about 1000 persons are employed on the
estate, but only 150 are permanently on the establishment.

The country is a very fertile one, and the soil is good, and not
poor. Ancient ruins, fragments of statues, medallia, and also earthen
vases, have been found about a mile from Policoro.

The port of Siritas was probably at the mouth of the Sinno,
where there is now an open road frequented by vessels, which
take cargoes of corn, liquories, and other produce of the
country. In 1723, two bronze tables, with inscriptions, were
found about eight miles above Policoro, on the northern
bank of the Sinno, near the town of Pisticci, which are known
by the name of the Heraclean tables. They are now in the
collegio di Studi in Naples. The Sinno, which is called the
Sinno, the mountains close upon the sea-coast. Four miles
south of the Sinno is Rocca Imperiale, the last town of Basics-
ita, built on a conical hill, which it crowns to the very
summit. From this place the entire circuit of the Calabrian towns,
both north and south, beyond is Rossito, the first town or village of Calabria Citra. The
whole coast of Basilicata, from the Brando to Rocca
Imperiale, is about 24 miles.

The interior of Basilicata is mountainous and wild. A
road branches out from the high road from Naples to Calabria
at Auletta, and crossing the Apennine ridge leads to
Potenza, which is the capital of Basilicata. It is a town of
about 10,000 inhabitants, a bishop's see, the residence of the
intendant general of the province, and the seat of the civil
and criminal courts of justice, and the college of the royal
university of the province. Many Roman inscriptions
have been found at Potenza. (Gatta, Lucania.) A road, the
only one that crosses Basilicata from east to west, leads from
Potenza, through the town of Treviso, to Matera, a distance
of about 30 miles through a mountainous country. Matera
is a considerable town, near the left bank of the Brando, and
about 20 miles above its entrance into the Gulf of Taranto.
It is the residence of a bishop, and was formerly the residence of the
governor of the province. The castle of Matera, the particular
of the town, are Oppido, Acerenza, and Montepellegrino, which are
the banks of the Brando, and south of the lateral ridge of
Apennines above-mentioned, which runs westward towards
the interior of Basilicata. The towns of Matera are beyond
and to the north of this ridge, extending to the banks of the Ofanto, and into the great plain of Puglia. In
this division are the towns of Nopoli, Meil, Atella, La-
vile, and Vences. This district is very fertile in corn. A
road leads across the mountains from Potenza through
Avigliano to Meil. Meil was one of the first places where
the Normans became possessed of in Apulia.

In the southern part of interior Basilicata there are no
towns of any importance: the people are thinly scattered
about the valleys, were formerly baronial seigneurs, the tables
of which are still borne by Neapolitan families; such as
Sugliano, Laurentina, Salandra, Francavilla, Marasci,
Veure, &c.

Basilicata extends nearly 80 miles in length, from N to
S, from the right bank of the Ofanto, near Meil, to the mouth
of the river Trechina on the Gulf of Pisciotta. Its breadth
varies considerably; in its widest part it
is about 60 miles, between the villages of Potenza Citra, near Marasci Novo. Sempronio
states the surface of the province to be 1,685,000 Neapolitan
morgo, a measure about one-eighth less than the English
acre. He states the population as being then 725,000, and it is likely to have increased much since
Basilicata is one of the provinces of the kingdom in which the
least progress in agriculture, industry, or commerce has
been made. Serrittoni, in his Saggio Statistico dell'Italia,
states the population at 415,000; but another, and a more
accurate statistical writer, A. di Rivera, a Neapolitan
colonel of engineers, states, that by drawing a line from
Montepezzo near Matera in the north, and carrying it through the centre of the province southward to Francavilla,
the land is bordered by the Apennines of Calabria Citra to the
east of this line and between it and the sea, including the
valleys of the Bradano, Bassento, Agri, and Sannio, is
about 117,000 inhabitants, divided among 32 communes, and
spread over a surface of 1,200 square miles. The exact
extent of the province cannot be given. The coasts are
the fertile part of it. The districts of Meil, Lavette, and
Veuro, near the banks of the Ofanto, he calculates to contain
about 70,000 inhabitants. The small district west of the
Apenines, which borders on the Gulf of Pisciotta, has
about 20,000 inhabitants, about 6000 habitants, and large
continents, perhaps, 25,000 more. There remains the
midland mountainous division of the country, which, with
the exception of the district of Potenza, the town of Trevis-
ni, the district of Matera, and the town of Matera, is
poorly inhabited, without any roads, and covered with
forests. From all this it appears probable that the whole
population of the province does not exceed 300,000, at
which number it reaches that number.

The origin of the name of Basilicata is not well ascer-
tained, though it is believed to have been given to this
province by Basilius II., emperor of Constantinople, who recon-
erred it from the Saracens and the Longobards at the
beginning of the eleventh century. (Gatta, Memorba
Institutus in Lucania; Cretz, Traité de Topographe
Tour through the Southern Provinces of the Kingdom
of Naples; Afan di Rivera, Considerazioni sul Regno delle
due Sicilie.)

BASILISK (Basiliscus, Daunia), in zoology, a genus of
Saurian reptiles, belonging to the Iguanian family. It is to be
observed that the basilisk of modern zoology is a very
different animal from the basilisk (basiliscus) or royal serpent
of antiquity, the Taphis or Tribophis of the Hebrews,
which is translated cockatrice in our English versions of
the sacred Scriptures, and which was formerly the subject of
so many fabulous narrations. The principal circumstances
connected with the history of the fabulous basilisk, and of
the different occasions upon which it has been mentioned or
related to in ancient writers, show that it is the Habitats
of Cockatrice, to which they more properly belong, than
to the present article. For the present we shall confine our
attention solely to the basilisks of modern zoology, and of
which, being an American genus (at least its most authent-
ic species), we shall give a complete account in the
section of Cockatrice, to which they more properly belong, than
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attention solely to the basilisks of modern zoology, and of
which, being an American genus (at least its most authent-
ic species), we shall give a complete account in the
section of Cockatrice, to which they more properly belong, than

links, and consequently are not of the same importance as a zoological character in influencing the aquatic habits of the animals. In other respects the basilisks are of a thick and elongated form, and have the whole outer surface of the body, as well as the head, neck, tail, and extremities, covered with small scales, of a rhomboidal form, and, generally applied to the underside of the body. The legs are long, particularly towards the occiput, the nose blunt, and the tongue large, thick, flat, rounded at the point, not extensile, and attached below the under-jaw throughout the greater part of its length; the tail is long, very much compressed on the sides, and surmounted, at least on the half next the origin, with a high vertical fin, covered with small scales like those of the body, and capable of being erected or depressed at the will of the animal. The legs are long, and the feet provided with five toes each, which are long, separate, and furnished with small claws. To the occiput is attached a membranous bag, which the basilisk has the power of distending with air, or emptying, as its occasions require, and which appears to supply in this genus the absence of the dilatable skin on the throat, with which nature has furnished the guanaxes, either as a reservoir to contain a quantity of fresh air to supply their necessities while diving, or by enlarging their magnitude without adding to their weight, to assist them in the actions of swimming and in keeping the head above water, or perhaps for both those purposes. In the particular case of the basilisks, their aquatic habits are still more powerfully increased by the vertical fin of the back, which, like that on the tail, is capable of being erected or depressed at the will of the animal, and, consequently, whilst it does not impede its motions on the dry land, greatly facilitates its power of swimming and moving about in the water. In short, these animals may be said to carry about with them a portable swimming apparatus, which is of the utmost service to them as aquatic animals, without encumbering them at other times; a beautiful provision of nature to supply the deficiency of palmed, or webbed feet, which, as in the case of all other palmed animals, would have reduced the progress of the basilisks on land to a slow and awkward gait, and rendered it altogether impossible for them to ascend trees or move securely among their branches. Yet their whole organic structure, the length of their limbs, and the division and flexibility of their toes, all announce the rapidity of movement and arboreal habits of these animals, in which are united, by the most simple means, functions and habits the most directly opposed to one another. The genus Ophioglossa of authors exhibits much of the same structure, though perhaps not quite so strongly developed, nor is it easy to conceive any just grounds for separating these animals from the basilisks. Two species only are usually referred to this genus.

1. The Hooded Basilisk (B. mitratus, Daudin) measures seven or eight inches from the nose to the origin of the tail, which is itself nearly twice as long again, being nineteen or twenty inches in length. This animal is easily recognized by the posterior characters already described, and more especially by the bag or hood of the occiput, which may be said to be in a manner peculiar to it, since it is but slightly indented in the other species; this bag, when distended with air, is about the size of a pullet's egg. The body has a covering of various andandy blemishes, slightly marbled on the back and sides with different shades of blue, and silvery-white on the belly. Transverse bands of a deep-brown colour, but broken and irregular, pass down the sides from the dorsal fin to the flanks; two small whitish bands pass over the eyes and from the corners of the mouth, and two longer bands, one on each side of the neck, and the tail is so remarkably attenuated towards the extremity, as to show the articulations of the vertebrae beneath. Seba, who first described this animal, besides identifying it with all the other basilisks, also stated, that during the middle ages concerning the fabulous basilisk or cockatrice, has encumbered its history with various speculations of its own, which, if not equally absurd, are to the full as injurious in a zoological point of view. He calls it, for instance, a species of Falcon, and attributes to it the horizontal flight, and colaud fins support it through the air in the act of flying, a faculty which is quite as foreign to the basilisk as it is to a trout or perch, which he says resembles in the matter of its fins: Seba did not suggest to him a similarity of function likewise, which would have been much nearer the truth than the strange hypothesis he has adopted. This species inhabits Guiana and the tropical parts of South America generally: its habits have been sufficiently noticed in speaking of the general characters of the genus.

2. The Crested Basilisk (B. Anomala, Daudin), a large species, upwards of three feet in length, is of a green colour, marked with white lines once, and whose head and neck, brown on the back and tail, and silvery-white on the belly, irregularly dotted with numerous white points. This species, as its scientific name imports, is an inhabitant of Ambyona and the islands of the Indian Archipelago generally. It keeps to the fresh-water lakes and rivers, and is said to bask on the branches of the trees which overhang the stream. On the first appearance of danger it drops into the water, and conceals itself beneath some rock or stone, hence it may be said to have both the habits of the amphibious and terrestrial animal, for it is a stupid and timid animal. It is caught for the sake of its flesh, which is white and as tender as chicken: in taste it is said to resemble venison. The female deposits her eggs in the sand, and leaves them to be hatched by the sun, paying no attention afterwards to her young progeny.

BASILIUS (Basileus), the Macedonian, Emperor of Constantinople, was born of poor parents in a village of Macedonia, towards the beginning of the fifth century. When twenty-five years of age he proceeded to Constantinople to seek for better fortune. He found a friend in the superior of a monastery where he had applied for shelter, who introduced him to the notice of an officer of the court of the Emperor Michael III. Having become known to that sovereign, he gained his favour, and became his chamberlain in 861. He soon after took a wife, who was a concubine of Michael. The patrician Bardas, a relation of the emperor, became ambitious of the office of the great adventurer, fearing his machinations, anticipated him by accusing him of conspiring against the emperor. Bardas having exculpated himself, Michael and Basilius swore before the patriarch that the same was a mere falsehood, and attempted anything against him. Soon after, while the two rivals were accompanying Michael on an expedition, Basilius assassinated Bardas in the emperor's tent, and was made by Michael his colleague in the empire, A.D. 866. Michael rendering himself odious by his cruelty and debauchery, Basilius resented with him, but he only irritated the emperor, who attempted to depose his colleague. But Basilius anticipated the emperor's design: he formed a plot with some other officers of the palace, and one evening retired to his room in a state of intoxication, they murdered him in his bed, A.D. 867.

Basilius was now proclaimed emperor; and his conduct on the throne which he had obtained through crime was unjust, and equitable. He restored justice, and enforced the strict administration of justice, corrected the abuses that had crept into every branch of the administration under the profligate reign of Michael, and began the compilation of a code of laws which was left unfinished by his successor Leo, but has retained the name of Basilica. He dismissed the intriguing Phocius, who had usurped the patriarchate, and re-established the patriarchIgnatius in the exercise of his functions. He assembled several council of bishops in Constantinople, in the presence of Pope Adrian II. sent his legates, and in which Phocius was condemned, and a temporary reconciliation between the eastern and the western churches effected. Basilius carried on the war in Apulia against the Saracens, at first as an ally of
the Emperor Ludovicus II, but he afterwards quarrelled with him and withdrew his troops. He was more success-
ful against the Saracens in Asia, recovering the greater part of Armenia, Cilicia, and Cappadocia, and the
Empire in 872, where they had not been seen for a long time. He defeated the Paulicians, a sect that had established
itself in Pontus, and had been for many years in a state of
revolt against the empire. Basilisius entered into a treaty of 
good faith with them, taking from them the islands of
Karamania, to which the Lycians and the Archipelago
were addressed to his son Leo, which is divided into
sixty-six short chapters, containing many good maxims
for his conduct. It has been published under the title of Basilii
Imperatorex Extentorionum Capita LXXV. ad Leonem
Philosophum. Paris, 1534, 4to, by F.

Moral, and at Göttingen, 12mo, 1674, by Just Von
Dranfeld. Another work by Basilius also addressed
Leo (Epistulae apud roi Carthago Anonoe Boreice), was
published by A. Mai in vol. ii. of his Patrum

BASILIS II. was the son of the Emperor Romanus
the younger. Upon the death of Romanus in 963, the crown
was claimed by two brothers, Basilis and Romanus, who,
the latter having been proclaimed by the people, was
put to death by John Zimisces. Zimisces took the crown for
himself, but acknowledged, as his successors, Basilius, and
his younger brother Constantine, who were then minors.
When Zimisces died in 972, the two brothers were proclaimed
emperors under the guardianship of the exarch Basilius.
The empire was disturbed for several years by the revolt of
Bardas Strumen in Asia, and afterwards by Bardas Phocas,
who had been sent from Constantinople against Strumen.
Phocas was, however, killed in battle, and the people
parted with Basilius in favor of his brother. The whole reign
of Basilius was one continual warfare against the Saracens,
the Bulgarians, the Slavonians, the Emperor Hymen II,
and the Longobards of Benevento. The war against
the Bulgarians was the most obstinate. It began in 961,
and lasted till 1014, when Basilius defeated Samuel,
King of the Bulgarians, and ravaged the country round
Philippines. Being embarrassed in his march by 13,000
prospects whom he had made, Basilius divided them into
contingents, in order that they might be cut off, excepting only one man in each company, who was to
show his companions the way. In this manner they returned
to King Samuel, who was so terrified at the sight that he fell
upon his knees and prostrated himself, and the whole
Greek Empire is almost all through a history of horrors.
In 1019 Basilius had subdued the whole country of the
Bulgarians as far as the Danube. In 1022 he went to make
war against the King of Bosnia, the modern Georgia,
and defeated him. Wleinius, Grand Duke of the Russians,
married Basilius's sister, after having received baptism in
995, and abdicated paganism throughout his dominion.
Basilius died in 1025, after a reign of fifty years. His
brother Constantine, who was nominally his colleague, but
had no power during his brother's life, succeeded him as
sole emperor after his death. Basilius was a great and suc-
scessful warrior, but inhuman, rapacious, and tyrannical.
He looked on his subjects with taxes, and left his coffers full
with gold.

BASIN (basin, French; bazin grotte, mecr grotte, see-
grotte, German; bacin, Italian). A term recently intro-
duced into geographical description. It may be applied
to any collection of water, as basins, lakes, and rivers,
and may be used also in this sense in all cases, the water which is drained
by the waters which run into such sea, lake, or river.

It is instructive and useful to trace the boundaries of the
basin of a sea. If they run far inland, and comprehend a
great extent of land, the basin must be considered as
of the dry, being subject to a higher degree of certainty.

The first thing to be considered is the extent and form
of a river basin. It is common with many in the United
States, where it receives the Mississippi and the great
rivers. At basin extant towards the water, the great
extents of the great; the basin becomes the Rhine, the
Rhine, the Serene, the Trent, the Venet, and many other
nations.
BASINGSTOKE, a market-town and parish, in the hundred of the same name, in Hampshire, 45 miles W.S.W. of London, and 30 N.E. of Southampton. It is situated in a pleasant part of the county, and being at the junction of five roads, one of which is the great western road from London, it has an appearance of much activity and commerce considerable trade. Although the adjacent country is surrounded with hamlets and villages, small houses are dispersed through it. A brook runs by the town, which was formerly mentioned as abounding in trout; this brook (called in the Ordnance Map, No. 12, the Town Brook) rises above the mill a mile distant from the town, and is the main branch of the Loddon, an affluent of the Thames. Basingstoke is mentioned in Domesday Book under the name of Basingstoches, and is described as having always been a royal manor which had never paid tax or been mentioned in the Domesday Survey. In the thirteenth century, a market was granted by the Bishop of Winchester, and it became a great market town, and still remains one.

An hospital for the maintenance of aged and impotent priests was founded at Basingstoke by Henry III. at the instance of Walter de Merton, bishop of Rochester and Lord of the manor, and it became a chantry in 1319, appropriated to the reception of supernumerary fellows and scholars from the prelate's other foundation—Merton College, at Oxford. It stood on the north side of the brook, a little below the town bridge, and some remains of it might be traced not in the brook, but in the northern extremity of Basingstoke are the remains of the Holy Ghost Chapel, by Camden having been erected in the reign of Henry VIII. by Sir William (afterwards Lord) Sandys for the use of a fraternity of the same name. Mr. Carter, however, is of opinion that the architecture of the chapel is not of later date than the reign of Edward IV., although carvings appear to have been added and alterations made in that of Henry VIII. The fraternity was dissolved in the reign of Edward VI., and his possessions vested in the crown; it was restored by Mary I. and the possessions granted anew for the maintenance of a priest for the celebration of divine service, and for the instruction of the young men and boys of the town of Basingstoke. The first record of the building, as a hospital, is in 1469. In the same reign the church of St. Michael was granted to the hospital, and, after a long period of neglect, it was restored in the beginning of the seventeenth century, and the estate was seized by parliament, and the building dilapidated and school shut up during the civil wars; Bishop Morley, however, procured the restoration of the estate, about 1675, for a sum of £1000. The church is dedicated to St. Michael, and is a spacious and handsome building, consisting of nave, chancel, and side aisles, with a low square tower. The south side of the church is of stone, but the other sides are constructed with alternate squares of brick and stone. It was built in the reign of Henry VIII. under the direction of Fox, bishop of Winchester. The living, which is of considerable value, is a discharged vicarage in the gift of Magdalen College, Oxford; it is valued in the poor rate at £120.

When wooden manufactures began to be first established in this country, Basingstoke obtained a considerable share in the business, and was particularly noted for its drygoods and shantons. These manufactures have long ceased; as at present nothing but the corn trade forms a considerable business, which has been much facilitated by a canal (called the Basingstoke Canal) from this town to the river Wey in Surrey, which communicates with the Thames and the principal rivers of England. The town is still a market on Wednesday, and the fair on Easter Tuesday, Wednesday in Whitsun-week, 23rd September, and 16th October; all except the second, are chiefly fairs for cattle. The number of houses in the town, according to the return of 1831, was 727; and the population returned was 3381 persons, of whom 1863 were females. The town was incorporated at an early date, and is at present governed by a mayor, recorder, seven aldermen, an equal number of capital burgesses, a high steward, and other officers. The

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Basing, John, or de Basingstoke, who received his name from the place of his nativity in Hampshire, was an extraordinary man for his time. Though the date of his birth does not appear to be fixed, we know that he was alive in the year 1230, and studied not only at Oxford and Paris, after the custom of the age, but also at Athens; a fact remarked by Leeland as uncommon in the history of English scholars at that time, who seldom proceeded farther eastward for the prosecution of their studies, and improvement in learning, than Rome or Venice. At Athens he studied the sciences under Constantinia, daughter of the archbishop of Athens. Leeland says, at his return he brought with him into England various Greek manuscripts, which, together with his proficiency in that tongue, caused Hugh Grotessete, bishop of Lincoln, a great restorer of that language, to promote him to the archdeaconry of Leicester. In 1325, being in Paris, as we are informed by Pits, that Grotessete sent to Athens for a Greek manuscript entitled "The Testaments of the Twelve Patriarchs," which, when obtained, he translated into Latin. The translation was printed among the "Orthodox topographia," fol. Basil., 1555. Bale and Pits inform us that Basing was first archdeacon of London, and then of Leicester; but the former preference is mentioned upon no authority. Pegg, in the "Life of Roger de Weschem" (from Wharton's "Anglia Sacra," instead of Leicester, reads Chester. Matthew Paris tells us that John de Basing introduced into England a knowledge of the Greek numeral letters: "This Master John, moreover, brought the Greek numeral figures into England, together with the computation of places, and explained them to his particular friends. By which figures, also, letters are represented; and, what is most remarkable, any number is represented by a single figure, which is not the case in the Roman numerals, or in ordinary arithmetic." His words are: "Hoc inusque Magister Johannes figuras Graecorum numerales, et eum notitiam et significationes in Anglia portavit, et familiare sus declaravit. Per quas figuram etiam litteram representantur, De quibusque maxime occupata, quod unum unius figura quilatue numerum representantur, quod non est in Latino vel in Algorismo." (Matt. Par. edit. 1684, p. 721.)

The figures, however, which are given in fac-simile in the "Venerabiles," are not for the use of his time; for the leaf here copied, are neither like Greek letters nor the ordinary Arabic numerals. Basing met with the invention at Athens, but Matthew Paris, who knew little about these matters, was mistaken in imagining that the Greeks used any such system of notation. The English and French, in which these numerals are found, is the enlarged work in Benet College Library, Cambridge. They do not occur in either of the two Manuscripts of Matthew Paris in the British Museum. Matthew Paris, in the "Variantes Literarum," has added to, and made up, single numbers, are all designated by lines bearing to the left, from the chief upright line. Those representing the numbers, from ten upwards, have the adjacent lines bearing to the right.

Matthew Paris records the death of John de Basing under the year 1252. His works were: 1. "Doctrinar... Controversius haberi unus. 2. Particular Sententiarum per distinctiones. 3. Doctrina Graecorum; a translation, probably intended to serve for instruction in the Greek tongue, as the Rudiments of Donatus did for the Latin. 4. Commentaries on Evangelists; this is probably the same work which Leeland calls "Tractatus de Ordine Evangelorum per annum. He has not written any other works, the titles of which are unknown."

Bascerville John, a celebrated printer, was born at Walsingham in Norfolk, and educated at Oxford and Cambridge. He was engaged in a writing-school at Lincoln in 1704, and in 1714 he was employed in the japa...
Mr. Baskerville was married to the widow of Mr. Raive; her maiden name was Russon. He died without issue, Jan. 8, 1773. He was a man fertile in invention, and indefatigable in the task of executing his designs. By the constant endeavours which he made to attain excellence in each of the various processes connected with the arts of japanning and printing, they were both heightened. The objects with which he was surrounded in the garden under a structure of masonry in the shape of a cone. His will contains an avowal of sentiments contrary to the doctrines of Christianity. The mausoleum above mentioned was discovered during the summer. Grass was growing on some tablets who were digging for sand on its site discovered the leaden coffin which contained his remains: and in May, 1821, it was opened for inspection. The body did not present the usual appearances of decomposition; the singular state of preservation in which it was found may probably be attributed to the entire exclusion of external air. The shroud was pure and very white, and a branch of laurel on the breast of the corpse was, though faded, still fresh. The head of Baskerville, the bone of Baskerville in his possession, from which an engraving has been made for Hausard's Typographia.

(Hausard's Typographia; Dodin's Introduction to the Classics.)

BAS. [See Basel.]

BASNAG. Few families have produced so many individuals of literary distinction and moral worth as the family of Basnag. Many of its members were zealous and able supporters of Protestantism in France.

1. NICOLAS BASNAG was being compelled to leave France on account of his adherence to the reformed religion, fled to England, and became the minister of a congregation at Norwich. He afterwards returned to France, and became a pastor in the city of Tours.

2. BENJAMIN BASNAG, the son of Nicholas, born in 1580, was, during fifty-one years, pastor of the church which his father had held at Carenton. Benjamin Basnag was a zealous defender of the reformed religion in France. He was successively a provincial deputy of the Protestant churches in Normandy, and head of the assembly held at Rochelle in 1622; and he contributed greatly to the resolutions which were formed in that assembly in consequence of the persecution of those individuals who had been permitted by the Protestants with fifty thousand men. He also signed the project of defence under the title of Moderateur Ajoint, and went to England to solicit aid. The expectations which the execution of this project followed from January 1. not being realized, Basnag proceeded to Scotland to gain the interest of his private friends in that country. On the termination of active hostilities against the Protestants, Basnag returned to France, and was appointed deputy for Normandy in the national synod which was held at Carenton in 1623. The provincial synod of Normandy having permitted him to leave his church, his congregation appealed to the national synod at Charenton, which rejected the appeal, and gave Basnag leave to accept a vocation to Rouen or to other places; but he considered his church as his wife, from which he ought not to separate. The vigour and zeal with which he maintained the interests of the reformed religion rendered him an object of increasing suspicion to the elect of Nantes, and a decree, taken to the prohibition of the minor functions, and refused him permission to appear as a deputy, and to take a part in the synod held at Charenton, a.d. 1631. This synod commenced its session by remonstrances against this decree, which were so forcibly expressed, that the court yielded, and Basnag was admitted to the synod, in the deliberations of which assembly he exercised great influence. He was elected president of the national synod held at Alençon in 1637. The infraction of the elect of Nantes, and the controversy between the reformed clergy themselves on the universality of grace and the divine decrees, were the leading topics discussed in this synod.

Benjamin Basnag died in 1632. His principal work, a Tract on the Church ("Tracte de l'Eglise"), was printed at Rochelle, 1612. He left imperfect a work against the worship of the Virgin.

3. ANTOINE BASNAG, the eldest son of Benjamin, was born in 1616. After the revocation of the edict of Nantes, he escaped to England, and married in 1653, at Zuthen, in which place he had held a pastoral charge.

4. SAMUEL BASNAG de Floitemanoe, son of Antoine, was born at Bayeux in 1638. He preached at first in his native place, but escaped with his father to Holland in 1643. He died at Dort, 1674, at Zutphen, in which place he had held a pastoral charge.

The principal works of Samuel Basnag were—L'Histoire de la Religion des Eglises Reformées, Rotterdam, 1670, 3 vols. folio, republished in 1699; De Rebus Sacris et Ecclesiasticis exsanctis et defunctis Cardinalis Baronii Annalibus ab an. XXXV. in quo Casabonius desinit expendiuntur, Traject, 1692, 1717, 4to.; 'Annales Politico-Ecclesiastici annorum DCXLV. a Cæsare Augusto ad Phocam usque in quibus res imperii ecclesiastici observata sunt, ad inum inscriptiones familiares evelluntur Baronio, Rotterdam, 1706. 3 vols. folio.

5. HENRI BASNAG de Franquenay, the youngest son of Benjamin Basnag, was born on the 18th of October, 1615, at St. Mère Eglise, in Lower Normandy. He studied for the bar, and became one of the most able and eloquent advocates in the parliament of Rouen, where he took the oaths in 1636. His learning was immense and his integrity unspotted. He died in 1659, and left three sons, two of whom were priests. He was buried in the church of St. Pierre, in the service of the States General, died in 1732. His daughter, Magdelan, married, in 1683, M. Paul Baldry, or Baudri, who leaving France after the revocation of the edict of Nantes, was made professor of ecclesiastical history at Utrecht.

His works are, Coutumes du Pays et Duché de Normandie, avec commentaires, 2 vols. fol. 1678, 1681, 1694; Traité des Hypothèques, 1687, 1724, 4to. The complete works of Basnag were published at Leyden, 1756.

6. JACQUES BASNAG de Beauval, the eldest son of Henri, born at Rouen, 8th of August, 1653, was the most celebrated member of his family. He was sent when very young to Saumur, to study under the famous Tannenquin, or Tannegni, or Tannegni, and to learn the art of a valuable pupil of his master. Le Fère endeavoured to disgust him with the profession of the ministry. 'You know this office,' he said to him, 'only by its bright side, and are ignorant how it has declined since its first institution. Believe me, you are too honest a man to become an ecclesiastic. You are too candid to exercise these functions as they are at present exercised, and your frankness would render the greatest part of your colleagues your enemies.' There may have been ground for the advice, but it was not followed from January 1. not being realized, Basnag proceeded to Scotland to gain the interest of his private friends in that country. On the termination of active hostilities against the Protestants, Basnag returned to France, and was appointed deputy for Normandy in the national synod which was held at Charenton, in 1623. The provincial synod of Normandy having permitted him to leave his church, his congregation appealed to the national synod at Charenton, which rejected the appeal, and gave Basnag leave to accept a vocation to Rouen or to other places; but he considered his church as his wife, from which he ought not to separate. The vigour and zeal with which he maintained the interests of the reformed religion rendered him an object of increasing suspicion to the elect of Nantes, and a decree, taken to the prohibition of the minor functions, and refused him permission to appear as a deputy, and to take a part in the synod held at Charenton, a.d. 1631. This synod commenced its session by remonstrances against this decree, which were so forcibly expressed, that the court yielded, and Basnag was admitted to the synod, in the deliberations of which assembly he exercised great influence. He was elected president of the national synod held at Alençon in 1637. The infraction of the elect of Nantes, and the controversy between the reformed clergy themselves on the universality of grace and the divine decrees, were the leading topics discussed in this synod.

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in concert with Basnage, and the alliance was concluded on the 14th of January, 1717. His services on this occasion procured for Basnage the restitution of all his former possessions in France.

Basnage was the personal friend of the Grand Pensionary Himborgh, and while in Rotterdam had a weekly meeting with Pears, Bixler, and other scholars. He carried on a correspondence with Protestant scholars, and was much interested in the Protestant states of France, England, Germany, and Italy. He was scarcely less esteemed by Catholics than by Protestants. Vodard said that Basnage was the most trusted minister of state and of a powerful prince. He had been at the Swiss Alps and in Spain, and was extremely kind to his guests. He was a very able, shrewd, and popular, and courteous, and in his influence in behalf of the un本書ended.

The following are some of his principal works; a complete list of which is given by his friend, Dr. Basnage. 

Examen des Méthodes proposées par Messieurs de l'Assistance du Clerge de France en 1656. Cologne, 1684, 12mo. This work was the foundation of his subsequent reputation. It is well written, but he never added his name to it. The same year he published a reply to the First Book of the History of the Old Testament by Pierre Simon, which occasioned a very sharp reply. Reponse a M. L'Evêque de Meaux, sur sa Lettre Pastorale. Cologne, 1686, 12mo. This work is against the Pastoral Letter of Basnage, addressed to the new Catholics, and addressed by the Bishop of Meaux, in which he attacked the Old Testament. 

De Appellate Lavrent. 2. De varia Athenasia supposita Openibus. 3. Adversus Simmonium, Rottendorf, 1694. 8vo. This work was reprinted under the general title of Dissertations furnished by the Paix de Monmouth, with an answer to Father Hardouin, who had questioned Basnage's History of Appollinaris. In the third treatise, Basnage answers Simon, who had alluded him in his Preface to his Critical History of the Old Testament. 

De Cantorum, etc. Sur la trés-necessité et les moyens de communiquer dignement. Rottendorf, 168, 18, 12mo. The fifth edition is very much enlarged, and contains a third and fourth book on the conduct of communities, etc. It was translated into Portuguese in 1689, and into Spanish in 1697, in 12mo. Basnage added a book in which he treats of the duties of those who do not communicate. There have been several editions of this work, which has been so much admired by Roman Catholics, and has been praised for its eloquence and style. It has been printed in Paris, Rhenne, Basnage, and Basnage, a priest, who has been a Protestant, has inserted it in his work entitled 'Conformité de la Censure de l'Eglise Catholique avec la Censure de l'Église primitive, etc.,' Rhenne, 1691, 12mo.

Histoire de la Religion des Églises Réformées, etc., pour servir de réponse à l'Histoire des Variations des Églises Protestantes, par M. de Meaux, Rottendorf, 1690, 12mo, 2 vols.: again in 1721, 2 vols. 8vo. and in 1752, 2 vols. 12mo: the last edition very much enlarged. This work has been since joined to the History of the Church, etc. 

Histoire de la Censure, dans lequel on examine la nature, ses illusions, ses erreurs, ses banalités, ses erreurs, etc. Rhenne, 1691, 12mo. This work has been printed at Amsterdam, in 4 vols. 12mo. It contains a continuation of the History of Basnage on the Conscience errante. 

Histoire de l'Église depuis le Trente jusqu'à présent, Rhenne, 1695, 12mo. 

Histoire de la Bénédiction Septuagint, Rhenne, 1695, 12mo. 

Histoire des Ouvrages des Savans au mois de Janvier, 1706. 

Histoire de l'Église contre la censure du livre de M. Richard, Rhenne, 1706, 12mo.

Histoire des Ouvrages des Savans au mois de Janvier, 1704. 

Histoire des Juges de la Justice du Cardinal, Rhenne, 1706, 12mo.
Alava from east to west, terminate on the banks of the Ebro, forming the boundaries of Alava on the side of Old Castile. The mountain of Jarriguibel, which extends from Cape Higor to Pasajes, on the coast of Guipuzcoa, is chiefly composed of sandstone, which is used in building. This mountain extends, on the highest point of which, called Ig wieldomendi, stands the light-house of San Sebastian, visible at the distance of thirty miles at sea. In the district of Alava in the mountain, called Zandria, in Alava, a tributary of the Ebro; in Vizcaya, the Nerja, or Nervión, the Cadagua, the Mundaca, the Lequeitio, and the Ondaroa, all of which rise in the mountains of Bizcayqui and Oiz, and flow into the sea at the places to which they give their names. In Guipuzcoa, at the extreme west, is the Deba; and proceeding to the east the Urola, the Oris, the Uruna, the Oyarzun, and the Bilboko, which separate France from Guipuzcoa. The aspect of the country is very picturesque; and the soil, although of clay, is so covered with the products of this is rural population; St. Jean de Luz, 2656, or 2656 for the whole commune; Urugne, of the commune, 3067, proportion of rural population unknown. In 1826, Mauléon had 1054 inhabitants, and St. Jean Pied de Port, as given by M. Balbo in round numbers, 2000.

The manners, the costume, the language of the inhabitants of this district show that they have a distinct origin from the other inhabitants of Europe. They are a lively, industrious people, muscular and well made, active in body, frank in manner, and courteous, moderate in the use of the comforts of life. The language is the relic of the ancient Iberian which prevailed over the southern and eastern parts of Spain, and over the south-west part of France. M. Guillaume de Humboldt has proved that the Basques have a language quite distinct from all others, a language which is far more different from the different national languages, and in certain respects some analogy to the American languages. M. Klaproth has discovered also, in the Basque, a great many forms which belong to the northern and western parts of Asia. M. Guillaume de Humboldt has observed, that the languages of the Basques, and the different national languages of the inhabitants of the Spanish peninsula, the southern part of Gaul, some parts of Italy, and the three large islands of the Mediterranean (i.e. Sicily, Sarдинia, and Corsica), belonged to one language, which is still found in the Basque.

In the middle ages the Basques were notorious for their propensities to brigandage, and for the rapidity with which they passed from their mountains, outstripping all pursuit. (Photograph de la France, Paris, 1832, tom. iii. p. 119.)

In the third province, by name occupies a territory of a form almost triangular, between 42° 25' and 43° 25' N. lat., and 4° 40' and 4° 25' W. long. It is bounded on the east by France and Navarre, on the south by the Old Castile, and the ocean by the west. The provinces are, Guipuzcoa on the east, Vizcaya on the west, and Alava on the south. The territory is exceedingly mountainous, being traversed by the mountain on the Pyrenean chain, called by some geographers the Cantabrian Pyrenees. The different branches of that chain form between them numerous and deep lateral valleys. The first of these ranges, which is composed partly of calcareous rocks and sandstone, and partly of limestone, has its origin in Navarre, and forms the separation between that province and Alava. It is a continuation of the Sierra de Aralar, the direction of which is from west to east. On entering Alava, it takes the names of Monte de Oza, Algaida, Ubiñas, Alaminos, and Arrasun. Part of this last mountain is the Pena de Alovera, an immense mass of grey jasper striped with white. At Puerto de Ablavian, between Ulibarri, Gasteiz, and Bilbao, the range is traversed by the road from Bayonne to Madrid, and its course, following the Montes de Albaceta and Bostibayeta, which abound in Marl of various kinds, in splinters and marble; the Gorresa, the Altube; and then the range ends in a continuation of hills, forming the separation between Alava and Vizcaya. A second range runs from the valley of the Atris, in the time of their independence, in the year 1813, between Navarra and Alava, forming the western barrier of the former province. It divides into two branches, which crossing.

* The boundary lies beyond the Alero, and consequently not of the Pays des Basques.

The people live for the most part on isolated farms scattered over the country, there being in the whole more than 10,000 farmhouses. The chief product of these farms is cultivated by the proprietors. Guipuzcoa is the best peopled, not only of the Basque, but of all the provinces in Spain, in proportion to its extent. Antillon gives 18,000 individuals for every square league; according to which calculation, the population of the whole peninsula, if it were in the same proportion, would be more than double what it is at present.

The Basque nation is certainly the first that settled in the Spanish peninsula, and, from the date of its origin, by its origin is unknown. Humboldt considers the modern Basque nation as the representative and the descendants of the great nation of the Iberi, who were spread over the whole peninsula [see Basques, Lex.], and spoke one language, modified in different dialects. According to Basque historians, at an epoch long before the invasion of Spain by the Romans, the Vascones founded colonies in France, Ireland, and Italy. Though their assertions cannot be satisfactorily proved, yet the name of Basque was long in the name of Basque. The Vascones, who lived in the north of Spain, in the north of Italy, of whom the Tolosan, and Urban, may be quoted among others, is perhaps a sufficient proof that some of the inhabitants of both those countries spoke the same language. (See Basques.)

The present name of Basque is derived, according to some, from Bascoa, a mountaineer or
The government of the Basques consists entirely from that of the rest of the peninsula. Every province has its own constitution, and a separate government, not differing much in spirit and form from each other. The people of Alava, at a very remote epoch, which some historians suppose to have been prior to the Roman invasion of the country, was an independent nation, governed at a general assembly. This assembly met every year in the Campo de Arras, a plain near Vitoria. It was composed of the bishop and archdeacon of Guadix of all the secular and ecclesiastical men; including also ladies, who were the representatives of their families. This junta was afterwards turned under the name of La Hermandad de Arras, or the Federation of Arras. They elected four Alcaldes for their chief magistrates and judges; the civil and military governor who was called duke, count, or lord. The office of the governor was for life, and sometimes a hereditary one for several generations in the same family. In the year 1467, at a junta held at Rivio-Alava by order of Enrique IV. of Castile, a collection of the laws and privileges of Alava was formed and approved; and as a code they are governed at present. According to the law, a Junta-General is held at Vitoria every year, at which three provinces are represented. A Junte-General is constituted by the inhabitants of one of the towns, and another from the same villages. There is also a Diputado-General, who presides at the assemblies, but has no voice in them: he can only make their report to the provinces and commissaries with the government of Madrid (the capital). The country is divided into three Hermandades, administered by seventy-five Alcaldes, elected at the Junta-General. These Alcaldes are elected by the Diputado-General, and every year give to the Junta-General an account of their actions. The Gipuzcoanos, according to their present constitution, hold a Junta-General, or general assembly every year, at the month of July, at one of the eighteen towns of the province. At this junta they elect four diputados—generales, who must be chosen of the three provinces and commissaries with the government of Madrid. There are also twenty-three Alcaldes de Guadalajara, or Alcaldes de Antuérn. These diputados, who are elected for one year, form the Diputado-General, which is the government of the province, except the government resides, in rotation, three years in each of the four towns just mentioned. There is also a junta called Extraordinaria. There are besides Alcaldes de Hermandad, to administer justice in the different districts. New Alcaldes are eight, and are elected by the junta. Besides these Alcaldes, whose office is to prosecute offenders and malefactors, there are seventy-seven Alcaldes de Junta, to administer justice in their respective districts. There is an Alcaldé de Saras, whose office is to prevent the circulation of prohibited articles of commerce into the province. He is also elected by the General Assembly, and holds office annually. The Basques hold a general assembly every two years. It is summoned by the Corregidor of Biscay, and every two years, village, or hamlet has one vote, and sends one deputy. The first session is always held under an oak near the town of Guernica. This oak does not appear to be of great antiquity: it probably has succeeded another, and will be succeeded by other young ones, which are carefully treated in the vicinity. Close to the trunk of the tree is a large bench, or throne, where the deputies sit. One of the secretaries tells one by one the names of all the towns in their order, and receives the credentials of every member. The assembly then goes to a hermitage near the tree, where it holds the rest of the sitting, which is always on the subject of the business that has been discussed in Basque. The order and regularity of these assemblies, composed of a multitude of country people, are remarkable. There is another junta, called de Merindad, which is held at Bilbao, and in which only the towns have a right to send one member. The junta de Merindad is held every year, by lot, the diputado, who is composed of the diputados, six regidores, two auditors, and several secretaries. Half of the members of this body, in rotation, represent the political parts of the Guipuzcoa, and the other three represent the Basque parts. The two diputados are sometimes appointed by the junta of the Basques. The junta de Merindad is not more powerful than the junta de General. It has, however, the full power of the junta de General, and the refund of the people, but is more personal and has less authority in the junta de General. The richest and most influential families in the province exercise a power in the junta de Merindad which is...
ors to the welfare of the community. On that account, the generosity of the Vizcaíans received as a blessing, in 1812, the cédula de libertad, by which, depriving them of all their privileges, liberated them from the yoke of the aristocratic body; and it was only through the intrigues of those families, and at the instigation of the agents of the Holy Alliance, that the people revolted in 1822 against the Bourbons.

The diputación is intrusted with the administration of the province; it receives and expends the public funds, disposes of the forces for the defence of the state, gives laws of citizenship to strangers, and is the supreme tribunal of appeal of all cases. By the constitution of 1845, the diputación is obliged to give an account of its administration, and of the manner in which the public funds have been expended. There is no building belonging to the diputación. Some of its members belong to private individuals, who let them to the state. The people pay only one direct tax, which consists in a moderate rate for every house, and is equally divided, so that rich and poor contribute to the state the same sum. The revenues of the church are so scanty, that the bishop's abadia or rectory is not worth more than 160l. per annum.

The chief privileges of the Vizcaíans consist in paying no taxes except those levied by their juntas, which consist of the house tax above mentioned, and a moderate duty upon iron; in every Vizcaí being born by a birth of quality, or gentleman, and acknowledged as such in every part of Spain; in not being subject to any tribunal, or to any other law but their own; to own the very land of the peninsula, than their own, and in having a judge resident at Valladolid for the administration of those laws in cases occurring out of the province; in being exempt from military service, except in the defence of their own country; in the enjoyment of commercial liberty, so that no article of commerce is prohibited or taxed, except those which are by the tribunal of commerce of Bilbao; and, finally, in not having any officers appointed by the government of Madrid, except the masters of the post-office.

The Basques are a warlike and warlike people, who contribute also to the royal exchequer a certain sum, which they call 'donativo voluntario,' or voluntary donation.

The Vizcaíns and Guipúzcoans are the best sailors in the peninsula, and skilful in commercial transactions. They are very active and industrious: their chief occupations are agriculture, commerce, and the manufacturing of iron. The women assist the men in the cultivation of the ground, and are remarkable for their cleanliness. Their manners are simple and easy. They are fond of dancing in their festivities, and enjoying the moderate pleasures of the table.

Their national instruments are the tamborine and the bagpipe: their dance, called zornico, is quick and lively, and is also danced by boys. At weddings, the bride and her husband greet the bride, in going to and coming from the church, by firing guns and pistols, and very often she is induced to fire them herself. In some villages, after the burial ceremony is over, they distribute bread, cheese, and wine; and the woman of the house is sometimes asked for some money to pay for masses for the release of the soul of the deceased from purgatory. The dress of the men and women is similar to that of the mountaineers of Castile: both wear abarces, a species of shoe which is made of a hard and unannealed piece of hog-skin, or of any other animal, which they soften by soaking it in water, and then cut it into pieces of the size of the foot, which they fasten on with strings.

The Basques are in general frugal, cheerful, honest, and courteous: their early marriage is the principal cause that makes them so. They are a brave people, and better adapted for a system of government by representatives. The Basque language is easier to learn, and is more agreeable, and capable of being written in a shorter time than any other language, and is much more comprehensible by persons who have written upon the subject of languages. It is the same as the Spanish, the Portuguese, and the Italian, in the arrangement and inflection of its words and phrases. It is much more convenient in many respects, and is so well adapted to the use of the tongue, that it has been recommended by many learned men as the most advantageous language to be taught in schools and colleges.

The Basque language is a language, Lengua Bascongka, called also by the Spaniards Bascencia and Vizcaíno, and by the French Basque, is spoken by the people who inhabit the Basque provinces, and part of Spanish and French Navarre. The people call themselves Euskoaldunak, their country Euskoaldea, and their language Euskara, or Euskera, in Spanish, and Euskera or Eusko, in French. The name Euskoaldea is derived from Euskador, from Euskada, from Eusk, the old name of the entire Basque nation, from Eusko, from Eusko, Eusa, and Euskar, which mean speech, language, and speech, as well as to say, to talk, and to speak; and is compared with the Latin Lingua, speech, language, and the Greek Logos, speech, language, and discourse.

The Basque language is a language of the same stock as the Spanish, Portuguese, and Italian, and is therefore more comprehensible to those who speak those languages, and is more adapted to the use of the tongue, than any other language. It is the same as the Spanish, the Portuguese, and the Italian, in the arrangement and inflection of its words and phrases. It is much more convenient in many respects, and is so well adapted to the use of the tongue, that it has been recommended by many learned men as the most advantageous language to be taught in schools and colleges.

The Basque language possesses a great variety of terminations. Besides terminations equivalent to all those existing in the languages of Europe, diminutive, and augmentative terminations, like the Spanish and Italian. Verbal nouns are formed with the termination or or oripa, to denote a physical act, and or or ora, to denote a
moral one; as guzmania, a warrior, iraculina, a teacher or doctor. For the abstract substantives it has likewise two terminations, tasante and quezi; the former denotes a natural and the latter a moral quality, defect, or perfection. Thus, zorrotasante denotes madness, as a physical derangement, and zorrotasante, an inclination to madness, as from a strong passion. The possessive terminations are three, cue, to denote something contained in the thing expressed by the word; arenne, to denote the possessor; and ex or cen, to express the manner in which the thing is owned or held. There is a peculiarity in Basque, called el ocho, or belonging to the house; guzxonuma, of the man; olerca, made of wood. From the last the Castilians have formed their patronymic, and perhaps their abstract nouns; as Fernandina, Ferdinandiana; amadina, parents' possession. Basque expresses as well the relation of gender. There is but one article, which is a for the singular, and an for the plural. This sign forms the characteristic of nouns as to number, and is in all cases affixed to the substantive: as guzxonuma, man's house; guzxonuma, man's.
King's Island to the westward, and Furneaux's Group to the eastward, bound the straits, which within these limits are so thickly studded with islands and shoals, that although there is a passage used by vessels, it is so much at too great a depth by the waves, there is one channel which runs quite through the rock, and affords shelter to a vast number of wild pigeons. The sea is from 200 to 300 feet deep at the foot of the perpendicular cliffs, but is shallower on the south side. There is a spring on the summit of the rock, which in former times supplied water to the garrison of a small castle. There is pasture for twenty or thirty sheep, and a small warren of rabbits; but the island is at present of no remarkable for being frequented by flocks of squatte birds, which continue these during the summer, and almost cover the entire surface with their nests, eggs, and young. Of the birds which frequent the rock, the solan goose (the patarene basanous of Linnæus) is the most noted and interesting. They arrive in March and leave in September. Some few generally stay about the island throughout the winter, which are supposed to be those that are too old to venture on the distant flight undertaken by the others. They neither come nor go away all at one time; and it is observed that before the arrival of any division of the main body, a few come to the Bass who are supposed to have been despatched as scouts. Bass is the only island on the eastern coast of Britain and Ireland remarkable for the elevation and precipitance of its sides. It is difficult for the solan goose to rise from the level land; and it is noticed that those of the northern and western islands of Scotland, in which there are none of this kind of Bass, Charles II. purchased this island of the Lauder family, and in his reign, and of his successor, it was used as a state-prison. After the revolution of 1688 a desperate body of men took possession of it, and having a large boat, which they hoisted up on the rock or let down at pleasure, they committed many acts of piracy; and it had the doubtful honour of being the last place in Great Britain which held out for James II. These bold men were at last surrounded by a great force, surrendered in consequence of the loss of their boat and the failure of their hopes of provisions from France. The place was soon after given to President Dalrymple, and is still possessed by his family. (Walker's Review on Natural History and Rural Economy; Gough's Additions to Camden; Carlisle's Topographical Dictionary of Scotland.)

BASS STRAITS, between New South Wales and Van Diemen's Land, or Tasmania, were first discovered by an enterprising individual of that name in 1798, while on a sealing expedition from Port Jackson in an open boat.
tery. Bassano contains, also, the printing establishment of Remondini, one of the largest in Italy, which has paper-mills annexed to it, as well as a school of engraving which has produced many fine examples of Bartolomeo Veneto, and other celebrated engravers. Bassano has about 10,000 inhabitants. The country around is hilly, and covered with vines and olive trees, and interspersed with villages. About twelve miles north-east of Bassano, near the banks of the river Piave, is the village of Possagno, the birth-place of the sculptor Canova, who began there a handsome temple in the shape of a rotunda, in which he intended to be buried. He left it unfinished, but it has been continued by his brother, and must now be nearly completed. (Albrizzi, Opera di Canova; Topografia Veneta; Marucini, Il Bassano, &c.)

BASSANO (GIACOMO DA PONTE) was born at Bassano in 1510. He was instructed in the elementary principles of his art by his father, and was afterwards sent to Venice, where he studied under Bonifazio, whose mean jealousy withheld from him the instruction which he had stipulated to give. But in a city which abounded with the works of Titian, Parmigianino, and Tintoret, Bassano stood in little need of a particular master; he applied himself with intense assiduity to the general study of those great artists, and, in all that relates to mechanical practice, with extraordinary success; nor are evidences wanting that his even in grandeur of style and conception he exhibited at that time a capacity which none who judge him by his later works would suppose him to have possessed. He painted, in front of the Casa Micheli, a fresco representing Sampson destroying the Philistines, parts of which, especially the figure of the hero himself, approximate to the grandeur of Michael Angelo. In the pictures of a Nativity and the Flight into Egypt (the latter for the church of St. Girolamo), he emulated the style of Titian with equal success.

These efforts, however, were but the results of momentary enthusiasm. Bassano's mind was essentially vulgar; he may, without impropriety, be denominated the Italian Rembrandt. The main characteristics of the Dutch artist all exist in the works of Bassano; gross vulgarity of character, absurd anomolies in costume, glowing colour, concentrated chiaro-ecuro, and not unfrequently a poetic feeling of effect, particularly in the management of the background, which is singularly at variance with the homely style of the figures. Bassano also painted portraits, and several of the most distinguished persons in Venice sat to him during his residence in that city, among them Sebastiano Veneto, the doge, Tasso, and Ariosto (see Bryan). On the death of his father he returned to Bassano and took possession of his paternal residence, situated on the picturesque banks of the Brenta. He resided here during the remainder of his life; and his style of landscape, drawn from the scenery which surrounded him, gives an air of grandeur even to his least successful performances; his horizons are usually high, and terminate in a range of blue mountains, illuminated by the rising or setting sun. With little power of selection, Bassano had surprising facility in representing whatever he saw. He delighted in rural subjects and their accompaniments, and such was his fondness for painting cattle, that he sometimes introduced them without the least attention to propriety; in the picture of Christ driving the money-changers from the temple, in the Doria palace at Rome, a herd of oxen is seen escaping among the intruders. Extensive and interiors of country-rooms were also favourite subjects with Bassano: these he often makes the site for some historical or sculptural subject, but the principal characters are always made subordinate; groups of peasants, the hostess, or the cook, busy among her kitchen utensils, domestic animals, or still life, occupy the foreground; and the principal light

usually catches on some very inferior object,—a dog, a white napkin, or a brass kettle. Little, however, is lost by this want of subordination, nor is any wish excited to gaze superflously on these things; they are as Sir Joshua Reynolds observes, 'painted the bosome of the district of Bassano, and called them patriarchs and prophets. His animals are touched with admirable truth and discrimination; and in spite of all his defects, such is the skill, clearness, and decision of his touch, the depth and richness of his tones, and the general picturesqueness of his effects, that his works not only commanded the respect of connoisseurs, but have been always valued by judicious painting for qualities so important in the art. Bassano painted with extraordinary dispatch, and such of his works as were not commissioned were sent for sale to the flourishing towns of Vicenza, Brescia, Treviso, and Padua, where they found ready purchasers. His fame reached so far that he was invited by the Emperor Rudolph II. to work at his court, but Bassano's attachment to his established habits of life induced him to decline this proposal. He painted for that monarch pictures of the twelve months and the four seasons of the year.

In a few instances during his latter practice Bassano showed that the feeling for grand design which he manifested in his youth was not quite extinguished. His altar-pieces of the entombing of Christ, in the church of Sta. Maria della Salute, at Padua, St. Roch interceding for the Virgin for the people infected with the plague, at Vicenza, and the picture of the seisure of Christ in the garden are distinguished not only by a sublimity in the general effect, but by a grandeur in the character of the figures, resembling the style of the Roman school. Bassano died in 1592. There is a prodigious number of his pictures in the palaces of Rome and Venice, and they are frequently seen in English collections. There are many engravings from his pictures.

BASSANO (FRANCESCO DA PONTE) was a son of the preceding, and a painter of considerable merit. Giacomo Da Pon was four sons who followed his profession. Francesco, the eldest, born in 1549, in cases younger Bassano; he studied with his father and preceded his in Venice, where he obtained considerable reputation in various altar-pieces, one in particular of St. Apollonia, the church of Sta. Afra, at Brescia. But his most original performances were a series of pictures painted the ducal palace at Venice, commemorating the chief events in the history of the republic. Tintoretto left himself from a window in a fit of delirium, and died on the spot in 1594.

Giovanni Da Pon was the second son of Giacomo, born in 1553. He is chiefly known as a copyist of his father's works, which he imitated with such accuracy that his copies are scarcely distinguishable from the originals he died in 1592.

Leandro Da Pon was the third son of Giacomo. Born in 1558. He distinguished himself as a portrait painter; he was knighted by the Doge Gismondo, who sat to him, and painted historical and sacred subjects occasionally. The best are the Birth of the Virgin and the Resurrection of Lazarus, the former in the church of Sta. Sophia, that in the house of the Counts. The church of S. Giovanni at Bassano: he died in 1592. The same style predominates in the works of all the brothers, which exhibit, with the exception of a few portraits, a great deal more of the manual than the mental capacity of art. (Bryan's Dict. of Painters and Engravers.)

End of Volume the Third.